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Modern Window Gardening

Treated Under Aspects
North, South, East and West.

By Samuel Wood.

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MODERN WINDOW GARDENING.

MODERN WINDOW GARDENING

TREATED UNDER ASPECTS

NORTH, SOUTH, EAST, AND WEST;

WITH INSTRUCTIONS FOR THE CULTURE OF

FLOWERING PLANTS SPECIALLY SUITED TO EACH ASPECT,

IN-DOOR AND OUT-DOOR, IN TOWN OR COUNTRY;

AND

PRACTICAL INFORMATION FOR AMATEUR GARDENERS

ON THE BEST MODES OF GROWING REMUNERATIVE CROPS OF

FRUITS AND VEGETABLES.

BY

SAMUEL WOOD,

Author of "Good Gardening," "Multum-in-Parvo Gardening," "The Tree Planter and Pruner," etc., etc.

LONDON:

HOULSTON AND SONS,

PATERNOSTER SQUARE.

1884.

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PREFACE.

THE experience of many years devoted to the study and practice of Gardening in all its branches has tended to show that there is a manifest want for a handy Manual, in which the Window Gardener is furnished with clear and concise instructions for the culture of plants that may be grown with success in windows, and with a full and comprehensive list — grouped under the principal aspects, North, South, East, and West—of those plants that are best suited to each of them. This want I have endeavoured to supply in the present volume.

To my remarks on Window Gardening Proper, and the necessary directions for its successful prosecution, I have added, for the information of all who practise Gardening on a small scale, and are possessed of only a limited area of garden ground, instructions of a thoroughly practical character on the culture of fruit, vegetables, and sweet herbs of all kinds, that will enable them to utilise it to the best advantage.

In Gardening, as in every other pursuit which it is sought to follow with profit, economy in every stage is an object which must be steadily kept in view. To this end, therefore, I have sought to frame the instructions I have given in strict accordance with the practical business of furnishing both windows within doors and ground and walls out of doors, at the least expense. I do not tell the villa gardener, the small farmer, and the cottage gardener to go as a matter of course to the nursery for young plants, and purchase them at prices which in some cases will be more than they can fairly afford ; but I try to help them to obtain the best results at a minimum of cost, by showing them how to raise all plants for themselves by the various means that are employed for their propagation.

SAMUEL WOOD.

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MODERN WINDOW GARDENING.

PART I.—WINDOW GARDENING.

I.—HINTS ON GARDEN WORK.

EVERYTHING must have a beginning—even a book, and I think I cannot do better than begin my subject by making a few remarks on garden work in general, which are applicable alike to every phase of its practice, though more especially, perhaps, to Window Gardening, which holds the first place in the present work, although there is no branch of gardening, except fruit and flower culture under glass, that will be passed by without notice.

Window Gardening, like all other arts, is, without doubt, made up of certain essential parts; these parts in the art now under consideration being—firstly, good order, which must be observed above and before all things; and secondly, proper treatment of individual subjects, which is equally necessary to success.

With regard to good order, which involves cleanliness and scrupulous attention to all plants under cultivation, I need say nothing more, but I may explain that under the proper treatment of individual subjects is comprised the supply of proper soils containing the constituents most required by each plant, proper potting combined with drainage necessary for the well-

being of the plant, judicious watering, due rest when rest is necessary, and the application of light according to the demand of plants.

To take the last first, all plants like and require light, some more than others, but that the requirement for light is general is shown by the fact that plants, especially when established, grow towards it; the normal direction of growth in the open, and under natural circumstances, being directly upwards. Now to all plants placed in a window the light comes on one side only, that is, through the window, while the light received from above and behind is merely reflected light, and as plants grow towards the light they will inevitably and invariably grow *towards* the window. Therefore I may proceed to lay down as a general rule for the treatment of all foliage plants such as geraniums, fuchsias, begonias, campanulas, etc., that frequent turning of the plant to the light is indispensable in order to induce symmetry of growth. Each plant should be turned at least once a week, otherwise, as I have shown, the plant will grow on one side only, which is not in accordance with good treatment and would be sufficient to condemn an otherwise well-grown plant at any exhibition.

Another essential to success in Window Gardening is never to over-pot a plant; that is, to place a plant in a pot which it could not fill, or would take too long a time in filling with healthy roots. Therefore, never use pots that are too large for plants: indeed it is better to err in the other direction, for most plants will flower much better when the roots are a little confined to the pot. The geranium, cactus, and many more will do far better when thus treated than when allowed to have too much room, and I have found that hyacinths, even, will flower better in a 4-inch pot than in a 6-inch one. Another important thing is not to over-indulge plants, for frequently this leads to a fatal issue. The auricula, a general favourite for window work, is a case in point. This plant dislikes nursing, and as long as its roots are free from stagnant water, no cold will injure them.

I have said that attention to drainage is necessary, and this is the only means by which the roots of plants can be kept free

from stagnant water. All plants imbibe water, and, with the water, plant food necessary for their growth, through their roots, and the roots will naturally seek moisture and run towards it. But it by no means follows that it is good and right for the roots of plants—unless they be aquatic plants—to come into direct contact with water itself, and to stand in it, for it will rot them, and render them more susceptible of injury in time of frost. The hyacinth, it is true, will grow in water, but the bulb is fit for nothing, or very nearly so, after having been subjected to this exhausting process. Therefore in potting plants see well to the "crocking." Keep at hand a good supply of pieces of old pots broken up small, and place in the bottom of each pot a layer of broken pieces to the depth of an inch or more, according to the size of the pot, and on these, to prevent the soil from getting amongst them and filling the interstices, put a little moss or a few leaves before filling up the pot with earth. And, as a general rule, pot firmly; that is, press the earth firmly about the roots and stem of the plant; and do not fill the pot to the brim with soil, but let the surface be about an inch below it, so that the plant may be watered all the more easily and freely when it requires it.

With regard to watering no hard-and-fast rule can be laid down, and the window gardener must be content to learn when it is desirable to give water and when to withhold it, from experience. Some plants will want water only once a week, some will want it once a day, and all will want more when in blossom than when they are not in blossom. No plant should be allowed to droop and flag for want of water. You can tell pretty well from the general appearance of a plant and its pot whether or not it requires water, for a pot is porous, and when a plant is sufficiently supplied with water will never present an extremely dry appearance. It is said that when a plant is too dry the pot when struck by the knuckles will give forth a sound with a slight ring in it, and a dull sound when the earth contains sufficient moisture, but this is somewhat empirical and hardly a safe and true rule to go by.

Different plants require different kinds of soil, or rather different constituents in the soil in which they are grown. One

will require a stiff and comparatively close soil, another an open and friable soil: one will require a peaty soil, another a compost which contains a large proportion of sand. The soils proper for each plant are duly noticed, when it is necessary to do so, in the following pages, and I need do no more here than refer the window gardener to the special description of the culture of each plant that he wishes to grow, and venture to predict that success will crown his endeavours if he pays due attention to all the points that are brought into prominence.

I have said that all plants require rest, each in its own season for repose. The ground rests when it is permitted to lie fallow: the forest tree rests during the winter months, when it has shed its foliage, and is preparing for a renewal of its leafy glories in the coming spring; and every plant, however insignificant it may seem to be, has its time for rest also. It is an essential in Window Gardening to give some rest to all plants, and as a general rule it may be said that the time for rest for most flowering plants is when they have done flowering, or when they lose their leaves. Some species of plants require to be kept perfectly dry in the winter season to afford them rest, and among such as these I may specially name the cactus tribe. Other plants should be kept half dry, as fuchsias, geraniums, sedums, and saxifrages. Most bulbs should be kept quite dry in the winter, except those which are planted in the autumn for spring flowering. Most succulents should be kept half dry, but Kalosanthes and Stapelia should be kept quite dry. In wintering plants the chief object in view with regard to watering is to keep them in a healthy condition and to prevent them from being excited and stimulated into growth at the wrong time. When a plant begins to wake up, as it were, and commences fresh growth, it will show by this that it requires re-potting and gentle watering.

I trust that those who follow my instructions will find that I have devised in the following pages means for the economical and effective decoration of windows in all aspects and at all elevations, both in town and in the country, and also for what I may term the permanent ornamentation of windows, walls, and

small gardens of every description, whether front or back, at but trifling expense. This I have made a special point, because there are so many who love a garden and the work that the care of it involves, whose circumstances do not permit them to buy everything they may fancy, but who are compelled to rear plants for themselves, which, after all, is far more satisfactory than buying them of those who grow for the markets. For this reason, the means and mode of raising and growing young plants is practically set forth at fitting opportunities and requires no special mention here.

Nor need I dwell now upon the manner of doing other kinds of garden work in immediate connection with the production of fruit and vegetables. Those who wish to learn how to prune and train fruit trees so as to ensure the best possible crops, how to get the largest amount of produce from a given space, how to save seed of all kinds, how to raise new kinds of flowers and vegetables, and how to rid themselves of the insect pests that are so detrimental to garden life, will find special information on each and all of these points in the directions for gardening out of doors, that follow window gardening in-doors. They are the results of my own experience of many long years, during which I have worked upon the "multum in parvo" system more than most gardeners, and by which I have been taught economy in gardening, and am now desirous of teaching thrift in horticulture to others.

But it is time to bring my gossip on garden work to a close, and turn in earnest to practical operations; so I will at once proceed to the consideration of plants suitable for a south aspect in window gardening, merely adding that I have adopted the alphabetical form of arrangement because it is handier for reference, and that in all cases where a species or an individual plant is suitable for exhibition, its name is preceded by an asterisk. With regard to the nomenclature adopted, the scientific name of the plant is generally used, but whenever any plant possesses a common or popular name, that is given as well. Varieties of the same kind of plant are of necessity distinguished by their scientific names.

II. PLANTS SUITABLE FOR SOUTH ASPECT.

***ABUTILON.**—The plants that are grouped under this name are splendid window plants, and may be easily grown by all who have large well-lighted windows. Plants may be raised from cuttings or seeds. While young, points of the shoots should be nipped out so as to induce a bushy habit. Do not stimulate the plants much before they show flower, when a little weak liquid manure may be given them once a week, for a few weeks in succession. This will cause them to be covered with a mass of bloom. There are many varieties of this beautiful bell-shaped and handsomely marked flower.

A. striatum, though old, is a handsome variety, and flowers freely, the blossom being orange, marked with red stripes. It is tolerably hardy.

A. Duc de Malakoff has a splendid cream-coloured flower, veined and striped.

A. Boule de Neige, pure white.

A. niveum aureum maculatum, beautiful white, spotted with gold.

A. Prince of Orange, pale orange, richly veined with scarlet, an abundant bloomer.

A. roseflorum, a beautiful rosy pink, shaded and veined with rosy crimson.

Cuttings may be struck in a mild heat and under a bell glass in the window. Soil, maiden loam, peat, and sand, equal parts. Good drainage required.

ACACIA ARMATA, commonly called **Soldiers' bush,** is a particularly good and handsome evergreen, dwarf growing window plant, bearing an abundance of soft yellow ball-like flowers in the summer. The plant should be frequently stopped to induce a bushy and symmetrical habit. The soil should be pure peat, maiden loam, and sand, equal parts, with good drainage. After the plant has done flowering, cut in a little, if necessary, to render it handsome and compact in form, and then give abundance of water, and a weekly watering besides with weak liquid manure. Cuttings should be selected

from the half ripe short side shoots, nicely trimmed and the base cut over smooth, and then inserted in small pots filled with fine sandy peat and silver sand, equal parts, watered and covered with a bell glass fitting inside the pot.

A. lophantha is a tall growing evergreen and handsome pinnate leaved variety, well adapted for window work. It requires the same soil as the foregoing, and a little stopping to induce compact habit. It may be raised from seed sown in heat, for the seed is very hard and a brisk moist heat is required to cause it to germinate. There are several other varieties, but these two can be depended upon for window work.

ACHIMENES.—Many of these will do well in the window in the summer, but the plants must be first started in three or four inches of strong growth in mild heat, and be somewhat well established in the pots before they are placed in the window; when treated in this manner they will do well. The soil should be leaf mould, peat, and sand, equal parts, made fine and well mixed. The pots must be thoroughly well drained by placing a good handful of broken crocks in the bottom first, and then a handful of moss upon them. Give the plants plenty of water from the time they begin to grow freely until they have done flowering, when watering should be discontinued altogether. Dry off the little scaly tubers in the pots and keep them there, thoroughly dry, till *February*, when they may be picked out of the old soil and placed thickly in fresh leaf mould and sand, equal parts, and then placed in a mild heat to start them. Give no water to these till they begin to grow. There are many sorts, but the old **A. longiflora** (violet) and **A. alba** (white) are good sorts for the window.

There is a sub-order of these with stiff erect stems and more robust foliage which do well as window plants, but the flowers are smaller.

***AGERATUM.**—The Ageratums both blue and white are handsome free flowering composite plants for the window, and not very nice as to soil. They require good drainage, and with regard to soil, maiden loam, leaf mould, and sand, equal parts, will do for them well.

A. imperial dwarf, both blue and white, are best for pot plants. They may be raised from seed sown in *February* and placed in mild heat; and they may be propagated by cuttings struck in summer in pots of fine soil, and when rooted, potted off singly into 4-inch pots. Nip out the points of the shoots to induce a dwarf and compact habit, and in the spring shift them into 5-inch pots, where they will make a beautiful show of azure blue and white for the summer.

ALONSOA WARSCEWICZII.—This is a pretty erect growing plant of the hardy annual class, bearing spikes of scarlet labiate flowers well adapted for a window pot plant. The soil may be leaf mould and maiden loam and fine sand in equal parts. The seed should be sown in *February* in a mild heat, or under a handlight placed where the sun can play upon the seed pot or pan. Good drainage is necessary, and the plant should be put in a 5 or 6-inch pot to bloom. A 3d. packet of seed will produce several hundred plants, and one such packet of seed would afford a sufficient supply for many persons.

ALOYSIA CITRIODORA, better known as **Sweet-scented Verbena** or **Lemon Plant.**—This plant is deservedly a great favourite, yet few succeed well in growing it. The difficulty is chiefly with the propagation, and with insects, the former being the worst. As soon as short young side shoots can be had a little firm, two inches long, take off as many of these as will fill a 3-inch pot close to the old wood with a keen edged penknife; trim off the leaves half way up the cuttings, handling the cuttings as carefully as possible, for they do not like handling much. Make the base of each cutting quite smooth with the knife, and then as quickly as possible dibble them in with a small stick about the size of a quill, at one inch apart all over the pot, which should be filled firmly with fine sandy peat, with some silver sand laid over the surface as soon as the cuttings are inserted, leaving room for a tumbler or small bell glass to be placed over the cuttings inside the pot. Amateur gardeners will find the kind of pot known as a "double-rimmed" pot useful for striking cuttings. This pot has a broad rim with a groove or channel in it for the reception of the bell glass, so

that the glass does not rest on the soil, or encroach on the space in which the cuttings are inserted. In the illustration the pot is shown half filled with crocks at A; the upper half, B, is filled with peat and silver sand; C is the bell glass.

Water the cuttings gently so as to wet the soil through. Allow them to dry for an hour; then place the glass over them firmly and put the pot in the window or elsewhere, where they will get some little shade for a while. When the cuttings are struck, which can be known by the growth they make, remove the glass, and after a week or two, pot the plants off singly, using a good drainage, and nip out the points. Insects may be got rid of by fumigation.

ALYSSUM.—The variety known as **A. saxatile**, or **Rock alyssum**, is a dwarf, free flowering hardy rock plant, bearing a sweet scented yellow flower, well adapted for the window-sill outside in almost any aspect and at any elevation. The boxes should be well drained and filled with sandy maiden soil, and the plants should be well supplied with water through the summer. They may be raised from seed sown in pots or pans in the spring. There is a variety of this plant with white flowers and variegated foliage suitable for pot culture.

ANEMONE.—Of this plant **A. coronata** and **A. hortensis**, single and double, are suitable subjects for the window. They are of dwarf habit and free flowering. The latter produces a brilliant scarlet or red blossom; but the flowers of the former are various both in colour and in form, and present most beautiful and desirable objects for the window within, in pots and deep seed pans, and for the window sill outside, in boxes. The drainage should be good, and the soil maiden loam two parts, leaf mould one part, and good pit sand one part. Make the soil firm, and in *November*, for very early flowers, place the roots

upon the surface crown upwards, three roots in a 6-inch pot and four inches apart in the box, and then cover them to the depth of two inches with the compost and press it somewhat firmly about the tubers. Do not water them for a week or more, when, if the soil is dry, water moderately. Should hard frost follow, place the boxes upon the ground in a sheltered place and cover them over. The pots inside will not require such precaution.

Anemones may also be planted for the same purposes in *February* and *March*, which will be the best time for open air planting. As the plants advance in growth and show flower, give them water liberally and one or two weak liquid manure waterings. As soon as the foliage turns yellow, discontinue watering and dry them off and finally take them out of the boxes, &c., and dry them thoroughly and preserve the tubers for another year. There are other species which will do well in window-sill boxes as—

A. Apennina alba, with large white flowers.

A. nemorosa alba, double white wood anemone.

A. nemorosa cœrulea, a beautiful sky blue flower.

A. thalictroides, a splendid dwarf and white flowered species for spring decoration. These last may remain in the boxes from year to year so long as they continue to give good flowers, and should be placed after flowering on the ground in a shady place. Propagation by division. The roots of these anemones may be had at from 2d. to 3d. each.

ARABIS.—Of this plant both **A. alpina** and **A. albida variegata** are good hardy perennials for the window-sill, forming handsome and constant decorative window plants at any elevation and in every class of situation outside. They are hardy and will thrive in any ordinary soil.

ARMERIA or **THRIFT.—A. maritima,** bearing reddish pink flowers, is an excellent plant for outside window-sill decoration in all places. The boxes should be firmly filled with sandy maiden loam, and the plants well watered through the summer. It may be multiplied by division.

ARUM. — Also called **Calla Æthiopica, Richardia Æthiopica,** and **"Lily of the Nile,"** although it was first

brought from the Cape of Good Hope. This old favourite window plant needs very little comment; but I may say that as the plant is subaquatic, that is, a plant fond of dipping its toes into water constantly,—it should always be well supplied with water, more particularly when coming into flower, and a weekly watering at such time with some liquid manure, as one ounce of guano to one gallon of water, will materially promote extra fine flowers as well as a succession of flowers. Small plants and even good sized plants will flower in 6-inch pots, but extra fine plants may be kept in 9 and 11-inch pots, in which they may remain for years, giving forth a succession of fine flowers from Christmas to Easter when stimulated by giving them weak liquid manure once a week or once a fortnight. The soil should be fine sandy peat and maiden loam equal parts, or maiden loam and old decayed manure equal parts, with a little sand in addition. The flower stems should be cut down as soon as the flowers have faded off. The plant can be had in flower at most times of the year by subjecting it to heat and stimulation with liquid manure. Propagation is by offsets when the flowering season is fairly over, or in autumn proper. These offsets should be potted singly into 3 or 4-inch pots and kept well watered. They may, if convenient, be plunged in heat. This popular window plant will do well in almost any kind of window, and in any aspect, whether north, south, east, or west.

AUBRIETIA.—The variety known as **A. Græca** is another hardy close growing and free flowering window-sill plant, bearing a blue flower, well adapted for such a position. Soil, sandy maiden loam made firm before planting. It may be multiplied to any extent by division of the roots in the autumn.

***BALSAM.**—The balsam may be grown well as a pot plant in the window. Get good seed of double varieties and sow it in a small pot filled with fine leaf mould and maiden soil, equal parts, cover the seed to the depth of half an inch with the soil and place it in a sunny spot in the greenhouse or window, and cover it with a flat square of glass or a bell glass, and keep it moderately moist. If the seed is new it will soon come up, when the glass must be removed. As soon as the plants are

two inches high, pot them off singly into 4-inch pots, using old decayed hot-bed manure and maiden soil equal parts, not too fine, and place one or two good-sized crocks over the hole in the bottom of the pot. Water moderately at first, and keep the plants as near the light as possible. When the plants have filled these pots with roots shift them again into 5 or 6-inch pots in which they may be allowed to flower, but if large specimens are wanted they should be grown in 7 and 8-inch pots, using rich soil.

***BEGONIA.**—Plants of the begonia tribe, whether the half-hardy shrubby ones or the tuberous kinds, are well adapted for inside window decoration.

Among the tuberous sorts for window work may be mentioned—

B. Veitchii, one of the most beautiful varieties yet produced, having vivid vermilion flowers of a large size, and being of comparative hardy constitution.

B. Sedenii, contains several varieties, as **B. magnifica** with splendid magenta-crimson flowers.

B. Sedenii perfecta, a good rich rare-coloured flower with good habit.

B. semperflorens, a splendid dwarf and continuous flowering variety, bearing a white flower, which should be grown by all who have a good window or a greenhouse.

B. Weltoniensis, one of the most beautiful kinds we have for constant flowering. It bears a waxy pink flower and is a fine variety for windows.

Among the shrubby kinds which are suitable for window-work, and may be grown by anyone, for they may be grown with no more trouble than a scarlet geranium, I may name—

B. discolor-Rex, with green and white leaves, and its varieties, as **B. d. Carrie,** with leaves of a silvery white, and spotted on the green ground.

B. Madame Syhan, with purple leaves, bronze and silvery white spots.

B. Souvenir de Dr. Weddell, with large rose leaves with white flakes.

The soil should be leaf mould, maiden loam, and peat, equal parts, chopped up with the turf in it, but not too fine nor sifted. Good drainage is necessary, and when growing freely the plants must have plenty of water. No water, however, must be given to the tuberous kinds while at rest, and a moderate quantity to the shrubby kinds in winter. Each class may be multiplied by cuttings through the spring months inserted in pots filled with fine peat. Crown shoots may be taken off the tuberous kinds in the spring when two inches long and potted singly into 3-inch pots.

* **CACTUS.**—The cactus is a special favourite with cottagers, and plants of this tribe are well adapted for the window and for the living room, because they are not half so nice as to temperature, dust, smoke, &c., as most other species are, nor do they require any water at all from *November* till *March*, so that they may be grown even in bedrooms. But, unfortunately, those who grow them in the house do not always succeed in causing even the most free-flowering kinds to come into bloom. The chief reason is because they are not kept dry enough through the winter. *Do not forget this.* Never mind if the plants look brown and shrivelled, for it is better that they should present this appearance. Keep them thoroughly dry ; and when March comes place them in the full sun and give them some water, and as soon as the thick leaves have swollen and shown signs of growing, take a kettle full of boiling water and pour enough out of the kettle, hot as it is, into the pots, so as to soak the ball. Be careful, however, not to pour the boiling liquid upon the plant nor upon the stems, but upon the soil in the pot only. This may be repeated every two or three weeks till the flowers show in the bud ; then give them liquid manure once a week. Half-an-ounce of guano to one gallon of soft water is as good as anything, I find, and between the waterings with liquid manure give the plants plenty of clean water. This treatment will ensure the production of abundance of flowers every year. Grow the cactus fast during the summer, and thin out the old stuff, leaving as much solid round young new growth as is required to make a good symmetrical plant. The term "round young

growth" applies to the upright-growing, flat-leaved species. The flowers are produced upon the round parts.

The drainage for all the cactus tribe should be of the most perfect kind. First place two or three good-sized crocks over the hole in the bottom of the pot, then put a two-inch layer of finer broken potsherds and lime rubbish and charcoal over them, and then use a compost of rough maiden loam and peat and sand, equal parts, with some cracked bones or charcoal mixed with it, and press the compost well round the plant. The allied procumbent species of **Cereus** and **Epiphyllum**, as well as the **Opuntias**, of all of which there are many varieties, are exceedingly good plants for hanging baskets in the window and the conservatory. Such baskets may be made with cork and wire—copper or galvanized iron wire should be used. The baskets may be made 8 or 9 inches square and 6 or 7 inches deep, and fitted close but not cemented, and the plants should be bedded in turfy maiden loam and moss, and the soil packed firmly in the baskets, for these baskets differ from pots in being of free drainage everywhere, and being exposed on all sides to free circulation of air, plants placed in them dry more rapidly than those in pots, so that the soil should be packed as firmly as possible. Cactuses in baskets will require more water during the summer than those in pots. It is not possible to enumerate here the sorts that are best suited for window work; nor, indeed, is it necessary, for all or nearly all may be grown and flowered in the window under the treatment named above, even the East Indian and South American species, as **E. Hookeri**, a magnificent fragrant and large white-flowered variety, with flowers as large as a cheese-plate. This species, which is usually reluctant to flower, I have found to bloom abundantly under the treatment described above, and even **C. hexagonus** and **C. senilis**, two gigantic forms, will flower under it. The rule is to stimulate into growth by all possible means in spring and summer, and to keep the plants perfectly quiescent in autumn and winter, as said. The cactus tribes may be freely multiplied by offsets and by cuttings, which should be taken off a week before they are inserted in the soil.

* **CALCEOLARIA.**—Both the shrubby and herbaceous varieties are good plants for window gardening. There is one drawback only to the general adoption of plants of this handsome and free-flowering tribe for window work, which causes some to give up growing them in the window, and declare they cannot do any good with them. This drawback is that the calceolaria is a little more liable to green fly than the generality of plants. The worst thing possible for anyone to do is to over-nurse them. The plants of both classes should be kept as cool as possible, and those who have the means should keep the young plants in a cold low frame or pit all the winter and up to the time the flowers show well in the bud, and if the floor on which they stand is a foot under ground so much the better. The floor should be covered to the depth of four inches with clean sand or cinder ashes. The plants should not be crowded too much, and should have as much light and air as it is possible to give them at all times except during hard and continuous frost. The seed of the herbaceous varieties—and there is no other way of propagating these—should be sown about the *middle* of *May*. The young plants should be kept in 4-inch pots all the winter, and in *March* be shifted into 6-inch pots, using maiden loam, leaf mould, and sand, equal parts, and then placed in the window. And now comes the universal trouble with the calceolaria. A few days after they are placed in the window or the conservatory green fly will be seen upon them, and as soon as their presence is detected, the plants, in a dry state, should be placed in a tight box or tub, which must also be quite dry. If the box be deep enough the plants may be placed upright in it; if not they may be laid down. This done, take half an ounce of *tobacco paper*, which costs one penny, and will be enough to cleanse a dozen plants, light the tobacco and place it in the bottom, and then as quickly as possible cover the top over with a close damp cloth of some kind, and let the plants remain in for an hour, when they may be taken out and the foliage syringed or watered with a fine rose water-pot. Repeat as often as may be necessary, *or* dust the plant over with *tobacco powder* when the green fly appears. The shrubby calceolaria is more

hardy and may be propagated in *September* by cuttings of the young short side-shoots taken off with a base, trimmed, and then inserted in seed pans or pots filled with very sandy loam and kept moist and in the shade. These dwarf, free-flowering, shrubby kinds do well in boxes outside the window during the summer.

***CAMPANULA.**— Many of this lovely tribe are remarkably well suited for window work, and among these I may make special mention of the noble and grand old **C. pyramidalis**, in two varieties, blue and white. Some ladies will prefer the white, but the blue variety is in my opinion the better, although both are alike as far as the growth is concerned. I think it would be difficult to match a well grown specimen of this campanula when in flower. Fancy, if you never saw one, a plant in a 9-inch pot with five or seven spikes of flowers, the centre one four or five feet high, each covered with flowers almost all the way up, the closely set buds continuing for a long period to expand in succession as the faded flowers go off. This is a fine exhibition plant for the cottager. The plants should be plunged out-doors in an open spot till about to come into flower, when they may be taken inside. From the time the flower spikes show give liquid manure once a week to the plants. The soil should be maiden loam and old decayed manure, equal parts, and the pots should be moderately well drained.

*** C. grandis**, a splendid hardy variety, with three-feet spikes of immense salver-shaped flowers of a deep blue. This plant should be potted in the autumn and grown in a 9-inch pot, in good strong maiden loam and manure, with a little sand, and fed with liquid manure from *March*. Five or six strong spikes will then spring from the crown, and these spikes, when tied to clean straight sticks, and covered with flowers from near the base upwards for three or four feet, will present a magnificent spectacle nearly equalling that exhibited by **C. pyramidalis.**

C. turbinata, a dwarf blue-flowered variety, with large salver-shaped flowers.

*** C. muralis**, a dwarf close-growing and hardy sort, with abundance of beautiful light blue flowers. A fine Alpine kind

for shallow boxes for the outside window-sill, where it will make one of the prettiest objects imaginable.

C. pumila, both blue and white. Two beautiful dwarf hardy varieties for the window-sill outside, either in the south or in the west or north aspects.

C. pulla, a beautiful dwarf Alpine variety for the window-sill, with blue flowers.

CARNATION (Dianthus caryophyllus).—Under this head I include picotees and pinks, the constitutional character of all being alike. All, indeed, are well adapted for the outside window-sill, and will do well if planted in good broad boxes, 7 inches deep, and in a good compost of one part maiden loam from a rich pasture or common, one part old pulverized cowdung, or the same of hotbed manure, and one part clean pit sand. Good drainage is required, and the compost must be firmly packed in for the plants, which should be kept well supplied with water all the summer. The exhibition pinks make a very superior show outside the window, if well attended to, and for those who like them, the old **Hay Pink** and **White Pink** make splendid window-sill ornaments, and when the window is opened will perfume the room deliciously. Then there is the **Mule Pink**, a dwarf pink, handsome in appearance, and bearing double blossoms, varying in colour in different plants, and in some cases highly fragrant. These also are well adapted for boxes in the window. The best time to plant them all is in *March*, from which time abundance of water must be given them through the summer, and a few weak liquid manure waterings at intervals. Propagation by pipings and division.

* **COLEUS.**—Any of these will do well in the window through the summer, but not after *October*. The plants should be frequently stopped to induce a bushy habit. They may be propagated by cuttings.

CROCUS.—Of the crocus there are many varieties, all well suited for pots, pans, and boxes, etc., for the window. These should be planted not later than *October* for early bloom. If planting is deferred beyond *November*, it is probable that many will not flower. The soil should be sand and maiden loam in equal parts.

***CYCLAMEN.**—The cyclamen is a special plant for the window, and the hardy varieties are remarkably well suited for this position. It is a plant that presents special advantages to the amateur gardener, for the corm, as its bulb-like root is termed, will send forth leaves and flowers for many successive years. The main thing is to be careful not to injure the crown of the corm, which is the only vital part of the plant. This is a single point from which the leaves and flowers spring, and which, of course, increases a little in size as the bulb gets larger. If this crown gets injured, the corm, in all probability, will never make another leaf. The corms should be potted or planted in boxes for inside or outside window-sill decoration in *September*, in a compost of one part maiden soil, two parts leaf mould, and one part silver or clean river or pit sand—not sea sand. The compost should be sifted, the pots should be moderately well drained, and the soil should be pressed firmly together, the corms being placed in it so that they are about one-third above the surface, for they dislike being entirely buried. Keep them moist, and when the flowers show, water the plants weekly with weak liquid manure; and when they have done flowering place the pots or boxes containing them in a shady place for the summer—under a north or west wall—and keep them moderately moist. When September comes again, turn out the bulbs and re-pot them as before. The best kinds for windows are—

C. Coum, a handsome, hardy, and early sort, bearing a deep red flower. May be planted thickly in boxes for the outside window sill.

C. repandum is similar to the preceding in habit and season.

C. Europæum, a bright variety, with rose-coloured flowers, flowering in autumn.

C. hederæfolium, a very handsome marbled foliaged variety, with bright rose-coloured flowers, which are produced in the late autumn.

C. Atkinsi album, a variety having beautiful foliage, and white flowers in spring.

C. Atkinsi roseum, bearing a good bright rose-coloured flower.

In the above I have named enough good free-flowering, hardy sorts, which will not cause much trouble, and which will prove satisfactory. Good corms may be had at from 3d. to 6d. each, and those who have the means of applying a little bottom heat can raise them from seed.

DIANTHUS.—The variety known as **D. deltoides** is well suited for window-sill boxes outside, in which position it will cover the box and sill and flower freely if kept well watered, and grown in close maiden loam of a sandy nature.

DIELYTRA.—Of this plant the dwarf variety, known as **D. cucullaria**, or **Dutchman's Breeches**, is well suited for window gardening. The latter name is appropriate to this particular variety, the flowers being very much like a pair of short-legged breeches, suspended from the rachis or flower stem by the peduncle which is attached to them between the wings of each flower, which are turned upwards, and are of a beautiful white tipped with yellow.

D. spectabilis, an old but handsome spring flowering variety, which, as well as the former, may be easily grown in 6-inch pots in the window, in leaf mould and sandy peat.

***DODECATHEON** or **AMERICAN COWSLIP.**—The dodecatheons hold the first place among hardy window plants, and closely resemble the cyclamen in the character of the flowers whose petals are reflexed in the same manner.

D. splendidum is a handsome dwarf flowering variety, bearing deep crimson flowers, with a yellow ring at the base of the petals. The soil should be maiden loam, leaf mould, and sand, equal parts. There are several varieties of dodecatheon, all of which may be raised from seed and propagated by division of the roots.

DRABA.—A genus of very dwarf and close growing carpet-like hardy plants, well suited for shallow boxes outside the window at all elevations. The soil should be maiden loam and sand, made firm.

D. incana, a biennial, is a handsome hoary and fine leaved variety.

D. tomentosa, and **D. nivalis**, herbaceous perennials,

make handsome window-sill ornaments, and may be multiplied by division of the plants in the spring.

ECHEVERIA.—There is no plant nor class of plants better adapted for inside and outside window work than the different varieties of these self-sustaining Echeverias; they are handsome in character, compact growing, and continuous flowerers, and require but little care; the flowers are handsome also. They may be grown in pots inside, and in boxes outside, at all elevations. The soil should be of a sandy loam and peat equal parts. The drainage should be perfect, and water may be given them liberally all through the late spring and summer, but little or none through the winter months. They may be multiplied freely by offsets and by seed. There are many charming varieties, but **E. glauca,** the common variety, is good, and of a whitish green, bearing an abundance of scarlet flowers. **E. sanguinea** has crimson tinted foliage, and is desirable as a pot and box window plant. With these may be associated the **Sempervivum** or **Houseleek** family, which require the same treatment, and will form handsome, and in some cases curious window-sill objects, as **S. arachnoideum** becomes covered over with a natural imitation of the spider's web, and **S. arboreum,** a tall growing variety, has variegated foliage and yellow flowers. The Sempervivums, like the Echeverias, are all more or less suitable subjects for the window inside or out.

ERINUS.—Of this there are several varieties with blue, white and red flowers, but **E. Alpinus,** bearing blue flowers, is as attractive as any. All of them make handsome compact plants for the window in shallow boxes well drained, and filled with sandy loam, and kept well watered while flowering, when the boxes will be literally covered with the handsome labiate flowers.

ERYTHRONIUM or **DOGSTOOTH VIOLET.**—The white and red flowered varieties of this plant are generally grown in the ground, but they make very handsome and suitable plants for pots in-doors, and for boxes in the window-sill. The foliage is very handsomely spotted, and the flowers reflexed much like

the cyclamen. They are small tooth-like bulbs, from which they take their name. The boxes should be drained fairly and filled in *October* or *November* with leaf mould one part, maiden soil two parts, and sand one part, made moderately firm, and the little bulbs then planted with the dibber two inches apart, all over the surface, and two inches deep, keeping the crowns upward. The surface of the soil should be covered with fine river or pit sand. The pots or boxes may remain on the ground till the plants begin to show flower, if convenient. The bulbs may be had for 1d. and 2d. each. They are quite hardy and may remain from year to year in the same boxes, but as soon as they have done flowering the boxes should be removed to a shady spot and remain there during the summer. In the autumn the soil must be stirred on the top with a pointed stick, and about an inch of it removed. The box must then be filled up with new soil. Care should be taken to prevent worms getting through the holes in the bottom of the boxes or pans, which may best be effected by placing a piece of tin perforated with fine holes, or close wire netting, over the holes.

FUCHSIA.—I need scarcely say the fuchsia is a well-known window plant for every one, but I may add that the best way to obtain handsome and good flowering specimens is to strike young cuttings of the new growth every spring in *February* and *March*. In doing so, select the young growth, 1½ inches long, and take the cuttings off close to the old wood, trim off the base leaves, and cut the base over with a keen-edged penknife, and then insert each cutting in the centre of a thumb pot half-way up the cutting in fine sandy peat, or maiden loam, leaf mould, and sand, equal parts, the soil being made very firm in the pot, and then water them, and place over them a tumbler or bell glass, if you have one, and plunge the pot that contains the cuttings into a larger one filled with sawdust or cocoa-nut fibre. This will prevent the small pot drying, and will also impart a slight warmth to it from the sun, for the cuttings should be placed in the full sun in the window, and as soon as the cuttings are well rooted, which will be known by the growth they make, water the young plants well, and an

hour afterwards shift them into 5-inch pots, using maiden loam and leaf mould equal parts, not too fine, and thus fine young symmetrical plants will be obtained, which are superior to the best formed old plants.

F. fulgens minor is a superb and handsome dwarf flowering tuberous rooted kind.

F. procumbens is a handsome basket variety, fit for the window, and may be suspended by a wire hook from the top.

F. corymbiflora major is a magnificent growing species.

F. Sunset is a handsome variety, whose beauty lies in its variegated foliage rather than its blossom.

Every year witnesses the production of new varieties of the fuchsia, and it is not possible to give a full list of them. The culture for all varieties is the same.

GAZANIA. — Of this class of plants **G. rigens** or **G. pavonia** are among the most showy yellow flowers we have for broad and deep boxes outside the window for the summer ; few flowering plants, indeed, can equal these for the whole summer when planted in a compost of one part maiden loam, one part old decayed manure, and one part sand well packed in the boxes, and kept well watered. The end of *May* is quite time enough to plant them. Six small good plants planted along the middle of the box will be enough, as they spread fast, and will soon cover the box. They may be propagated by cuttings taken in *August* and kept in a pot during the autumn, winter, and early spring.

GENISTA.—**G. Canariensis** is one of the best early yellow flowered evergreen window plants we possess. The plants will strike freely from cuttings of the half ripe young woods. The young plants will flower when very small, and should be frequently stopped, *i.e.*, the points of prominent shoots nipped out, to induce a bushy compact habit. It may be grown in one part maiden loam, one part peat, and one part sand.

G. triquetra and **G. tinctoria flore pleno** are both dwarf varieties, and **G. procumbens** and **G. sagittalis** are well adapted for deep boxes outside the window, where they will

always present sightly objects, being as hardy as oaks, and may be trimmed and clipped at pleasure.

GENTIANA or **GENTIAN.** — Of plants thus called, **G. cruciata, G. decumbens, G. gelida, G. verna** and **G. pneumonanthe** are well adapted for boxes outside the window. The boxes should be seven inches deep and eight inches wide, and filled with good maiden loam and sand, packed in firmly, the soil being kept moist. When the plants have done flowering the boxes should be removed to a shady spot for the summer months, and have a few waterings with weak liquid manure. Nothing will surpass these handsome hardy blue-flowered perennials. These plants are also suitable for west and north aspects.

GERANIUM.—Of these plants we have several classes, including the zonals, and plants grown for cut blooms of all colours, white, salmon-coloured, pink, scarlet, and crimson, which are comparatively easy to manage, and are also beautiful as window plants. Then there are the golden tricolours, which are chiefly grown for the beauty of their leaves, which are as attractive as flowers; these, however, are not quite so easy to manage, but with care they may be grown in the window. But the **Show Pelargoniums,** as they are called, are the favourites; these are easy to grow and flower in the window, and certainly there is as much difference between a good fancy pelargonium and a zonal or ordinary geranium, as there is between silk and cotton, and this is soon shown where two plants—one of each of these two classes of flowers—are offered together for sale. The grower should select those that flower most freely and are of a robust constitution and dwarf habit.

Queen Victoria is an exquisite variety, having flowers with fringed petals and of dwarf habit.

Dr. Masters is a fine free flowering dwarf plant, having dark flowers.

Virgin Queen is white, with carmine spots, free flowering, and of dwarf habit.

Triomphe de St. Maude has a deep crimson flower, yielding a remarkable abundance of bloom, and is of dwarf habit. There

are many others of similar habit, which space does not allow me to mention in detail. All these constitute the varieties which will be highly valued by amateurs of all classes when once they possess them, and which will also take prizes at local shows, if managed properly. To begin growing get cuttings of any good sort of this class when they are cut down in *August;* trim each cutting, and then insert in a 3-inch pot filled firmly with a compost made with one part leaf mould, one part maiden loam, and one part silver sand, all made fine, and press the soil close to the base of the cuttings, which should be an inch under the surface, and then water and place them in the window, or if a glazed frame is at command place them under it. As soon as the cuttings are well rooted shift them into 5-inch pots, in which let them remain till *March*, nipping out the points of the new growth till then. If no cuttings can be had, and means will admit, purchase a nice young plant of each sort that you may prefer in the autumn, and place them in the window. Give the plants but just enough water to keep them healthy through the winter, and in the spring give it more freely, and as soon as the flowers show, give a few waterings with weak liquid manure. Do not use guano. The clear liquid obtained from sheep's droppings put into a tub with water is as good as anything.

GYPSOPHILA.—The gypsophilas are remarkable for the the profusion of their flowers, which are so abundant that the plants seem a mass of bloom. The flowers however, taken singly, are small, and of a most delicate colour. **G. repens** is a most charming plant, dwarf in character, with white flowers, which cannot fail to please as a box plant in the window.

HEPATICA. — Plants of the hepatica family all furnish highly ornamental objects for window-sill boxes in the early spring, and will continue to bloom for years, if after they have done flowering the boxes are placed upon the ground under a north or west wall for the summer until *December*, and are kept moist through the summer, a few waterings of liquid manure being given them, which will induce fine new buds. The soil should be maiden loam and sand equal parts, and

be potted off singly in 3 or 4-inch pots, using the same kind of soil. The following spring graft them close to the pot as camellias are grafted, and when united to the stock cut the head of the stock off nearly close to the graft, and encourage the graft to grow as much as possible by liberal waterings with weak liquid manure. Shift the plants as required, giving a thorough good drainage and a stronger soil composed of loam and old, rotten, hot-bed manure. Keep the foliage clean and give less water in winter than summer.

***PETUNIA.**—All the petunias are good window plants and the double-flowered sorts can be made special objects by free growing. The single flowered varieties are freer growing than the double kinds as a rule, and the new and handsomely marked single varieties, such as are produced by *Mr. Cannell, of Swanley, Kent*, may, by noticing a few cultural points named here, be made perhaps the handsomest window ornaments to be had through the greater part of the year. The single varieties may be raised from seed as well as by cuttings. Seedlings grow more freely than cuttings. One well grown petunia in a 7-inch pot will be enough for one ordinary window if trained upon a trellis. In all cases of growing window petunias be careful to nip out the points of every young shoot as they get two or three inches long while the plants are young, so as to induce a dwarf and compact habit, otherwise you will be sure to have a tall lanky plant, not fit to be seen, with a few flowers upon the top only; and be sure to duly attend to the training and tying out of the branches before they get confused. The soil should be maiden loam and leaf mould, equal parts.

PENTSTEMON PROCERUM. — This is a handsome evergreen, prostrate growing perennial for a box outside the window, where it will display its purple flowers all the summer, and form a pretty object.

*** PRIMULA.**—Among the varieties of the *Primula* which are specially adapted for window gardening I may call attention to the following as beautiful subjects for pots for the window:—

P. Sinensis, a very popular window plant.

P. Japonica, a hardy, Japanese, whorl-flowered species.

a class of dwarf character, which when placed thickly together in a pan make handsome floral window objects, whether grown in pots or pans. The bulbs should be planted in pots or pans from *September* till the end of *December*, which is quite late enough. The pots and pans should be moderately drained, *i.e.*, one or two good sized crocks laid over each hole in the bottom and then filled up to within 1½-inch or 2-inches of the rims, the compost being made quite firm. Then place the bulbs on the soil and fill up all round the bulbs, pressing the compost firmly over them. Then place the pots or pans upon a 3-inch layer of cinder ash under a north wall or fence, house, &c., and cover them to the depth of two or three inches with cinder ashes, cocoa-nut refuse, old tan, or sawdust. It is better to plunge the pots in the material, as then there will be no cavities between the pots which require to be filled up. Here let the pots remain for five or six weeks, when they will be filled with roots, and then may be removed to the window and conservatory, or forcing house, and be well supplied with water. When the flowering is over remove them and place the pots or pans upon or half plunge them in cocoa-nut refuse fibre or old tan, etc., under a west wall, and let them be kept well watered till the foliage turns yellow, when watering may be discontinued, and when the autumn comes the pots may be lifted, top-dressed and brought forward again. The bulbs will flower well without much more trouble. Soil for growing hyacinths should be composed of sand, maiden loam, and old manure, equal parts. The hyacinth may be propagated by offsets in the summer when the bulbs are dormant. Catalogues may be obtained with full descriptions of all classes and their colour and prices. The bulbs included in them are so numerous, and about on the same level in point of excellence, that I can see little or no utility in enumerating sorts here. Let those who do not know which to order send to some reliable dealer in these bulbs and get his catalogue and make selections, or else send and say what they are wanted for, and trust to the dealer to make a selection. There is, however, one remark that I must not omit here, and that is, never expect bulbs of first rate or even second rate

quality at the lowest price. Bulbs of good quality cannot be had for less than from 4/6 to 9/- per dozen to name, and good show sorts from 9/- to 18/- per dozen.

***KALOSANTHES**, otherwise called **Rochea**: a name also applied, but wrongly, to plants of the **Crassula** kind. Of these I may specify **C. coccinea** and **C. miniata** as being useful plants for the window gardener. These plants may be treated in much the same way as the Echeverias. Very young plants will flower, and the blooms produced are of a waxy substance, of a vivid red or deep pink, arranged in umbels of many florets which are very highly fragrant. A well grown two or three year old plant in a 6 or 7-inch pot makes a grand show, and will bear carriage for exhibition a long way without injury. The soil should be maiden loam, peat, and sand, equal parts, not made too fine, and the drainage should be good. To get handsome specimens the young plants should be stopped so as to induce a branching habit close to the pot. If six or seven healthy shoots can be induced from the pot and tied out to short sticks, the foundation is laid for a good symmetrical plant, and these branches should be made permanent for the future. Each of these healthy young branches will give at least one head of flowers. As soon as flowering is over cut these branches back half way and then give the plant a weekly watering with liquid manure—*half-an-ounce* of *guano* to one gallon of water, and induce the plant to make as much strong new growth as possible till the end of *October*, when very little water should be given till *March*, when the plant may be shifted into a larger pot with fresh soil, reducing the old ball first. Abundance of water and liquid manure should then be given as before. Cuttings will root freely.

LACHENALIA.—A beautiful class of plants, better suited for pots and boxes than for the open border; raised from bulbs, which with one are two exceptions are derived from the Cape of Good Hope.

L. tricolor, a handsome spotted leaved variety, with red and yellow blossoms.

L. luteola, with golden yellow blossoms.

tops with flowers as bright as gold, and in some cases white and blue. The boxes for these hardy classes should be shallow and well drained, one or two inches of broken bricks and lime rubbish being put over the crocks which are first placed over the holes. The soil should be composed of leaf mould one part, maiden loam one part, and small stone and sand one part, not made too fine. These kinds should not be disturbed for years after they are once well planted. For pot work inside the window the following may be used :—

S. spectabile, sometimes called **fabarium,** or **Showy Sedum,** a biennial, which must therefore be sown every season, or propagated by offsets when they can be had. The flower scape grows fifteen or sixteen inches high, and the flowers are produced in an immense corymb of rosy pink.

S. albicans, a tall-growing white one.

S. altissimum, a beautiful tall variety, with yellow flowers.

Other varieties are equally good for pots inside the window, but those named will be sufficient. Soil the same as for the outdoor stonecrops, except the stones, etc. may be dispensed with in the compost, and some broken charcoal substituted. But little water must be given them until spring, when starting for flower.

SNOWDROP.—Select the largest roots for potting and for boxes for the window, and plant them in *October*, as for the squill. The snowdrop is also suitable for east and west aspects.

STAPELIA.—These evergreens form a curious and handsome tribe of **African** dwarf erect-growing plants, fit for the window, and may be treated much like the cactus, except the hot water applications. There are a great many varieties, many beautifully striped and barred with red lines upon purple, yellow or purple-brown grounds with large reflexed flowers. They are a very interesting genus. For culture see "Cactus," page 21.

*** TROPÆOLUM.**—There are many varieties of this plant, but **T. Jarrattii** is one of the best bulbous-rooted kinds, of medium climbing habit, and well adapted for the window inside when trained upon a flat or concave trellis formed of small wire, and placed so that the flowers fall through on the under side.

In purchasing this sort be careful to see that you get the right one, for there are two as much alike as possible in flower but very diverse in the root and productiveness of flower. **T. Jarrattii** has round tubers, and **T. tricolorum**, which is like it in flower, has long tubers about as large as the finger and half as long.

T. azureum is a beautiful sort with blue flowers, well fitted for a pot in the window.

T. polyphyllum, a choice and handsome kind, with an abundance of yellow flower, well adapted for a pot in the window when trained upon a concave trellis, like **T. Jarrattii.**

The pots should be well drained, and then fitted with a compost of one part leaf mould, one part maiden loam, one part good peat, and one part sand, all made moderately fine, but not sifted, and pressed firmly in the pot. The bulbs should be placed in the centre of the pots and covered one inch with light soil. Give but little water at first, but as soon as they appear above the surface, water liberally and fix the trellis firmly in the pot, and as the plants advance, which they will do rapidly, lead the shoots over the trellis before they get confused and attached to the trellis, so as to be troublesome to disengage.

UMBILICUS LIEVENII.—A plant much resembling the sempervivum, producing a flower stem from the centre about six or seven inches high, crowned with a large umbel of blood-red flowers. It is a hardy, herbaceous succulent and may be raised from seed sown in a pot filled with fine soil, or propagated by division or offsets. Treatment as for houseleeks and sedums.

VALLOTA PURPUREA or **SCARBOROUGH LILY.**—An amaryllis which flowers before the foliage appears much above the soil, affording a remarkably fine window plant, and one that is easily grown. It produces large blood-red flowers in the autumn, and once acquired may be kept for many years. The soil should be one part leaf mould, one part maiden loam, one part peat, and one part sand, all chopped moderately fine and well mixed, but not sifted. The pot should be not less than seven inches for a good bulb, and eight inches for a strong one, and be well drained. Give plenty of water as soon as the flowers

show and a few liquid manure waterings also. But little water should be given the pots after the leaves turn yellow till toward summer again. It may be multiplied by offsets taken off as soon as the leaves die down.

***VERBENA.**—Any of the strong-growing and free-flowering varieties make good window plants of great beauty. The only drawback is they are very liable to thrips and green fly, but these pests may be checked by frequently dusting the foliage with *tobacco powder*, or by fumigating them as directed for the Calceolaria. Young plants should be potted into 5 or 6-inch pots in March, using good soil and sand. The plants must be frequently stopped to induce a bushy habit, and must have abundance of water.

III.—CLIMBERS AND BASKET PLANTS FOR SOUTH ASPECT.

ACHIMENES.—This species supplies in **A. longiflora,** violet, and **A. alba,** white, two good basket varieties for the window. The young plants should be well bedded in a globular wire basket, in green moss and leaf mould, with the points showing out through the sides an inch or two. They should then be well watered before hanging the basket up. The plants are sure to do well, and will form a complete ball of flower if watered when required.

ADIANTUM CAUDATUM.—A most beautiful basket fern of a remarkable deflexed habit, which will do well in a warm aspect suspended by a hook from the ceiling a little back from the window. The foliage, which runs along the fine dependent rachis, alternately sometimes, is short feathered at the edges or brush-pointed, giving to the foliage a beautiful light appearance. The plant should be well bedded in a close cork basket with moss and rough peat and loam, and packed quite firm.

CAPRIFOLIUM FUCHSIOIDES.—This variety of honeysuckle makes a most beautiful window climber when trained on a single strong wire arch round the window, where the light can

come at it, the pot standing on one side of the window. It belongs to the trumpet class, and has scarlet flowers which are borne in clusters. It is a handsome variety for the window and conservatory.

CLEMATIS SIEBOLDI.—A most splendid variety for an 8-inch pot inside the window, trained round the window frame close to the glass; soil maiden loam, peat, and sand, equal arts.

DAVALLIA CANARIENSIS, or **Hare's-foot Fern.**—This is a fern of most curious growth, the roots or rhizomes overlapping one another and resembling the feet of the hare laid one upon the other. It is a beautiful variety for the window when grown in a close cork basket and suspended by a wire hook from the ceiling. Bed the plant in maiden loam and peat in equal parts.

ELK'S HORN, or **Stag's-horn Fern** is a good window plant, especially when placed upon a block of old oak or elm and fastened to it by a little moss and copper wire, and then kept moist for a time. The plant will attach itself to the bark of the wood block and then almost live upon its own decaying root scales. It is a curious example of self-sustaining nature.

HOYA CARNOSA.—This is generally regarded as a stove or warm greenhouse plant, but I have succeeded well with it in a north window. The plant is valuable for its dark green and thick foliage, which always remains upon the plant, seldom or ever falling off, and for the great curiosity of the flowers which are of a waxy substance of a delicate flesh colour, produced in a corymb from the same foot-stalk for several successive seasons. When fully developed the flowers emit a considerable quantity of clear honey in slow drops. The plant should be grown in a well-drained pot filled with rough and fine peat mixed, and have abundance of water in summer and but little in winter.

ISOLEPSIS GRACILIS.—A very handsome basket grass, which requires a close cork basket with zinc or tin water-holding pan, two inches deep, to hold the water when the plant is watered, which must be done frequently.

IVY, VARIEGATED. — Any kind of variegated ivy will make a very pretty wreath round the window.

IVY-LEAVED GERANIUM.—A good basket plant, and a climber also. There are many varieties, single and double.

LYGODIUM SCANDENS.—A good climbing fern for baskets in a shady window.

MEDEOLA.—The variety named **M. asparagoides** is a beautiful small cordate, foliaged, under-climbing plant, with sweet scented liliaceous flowers, well suited for hanging baskets and for pots ; soil, leaf mould and maiden loam, or sandy peat.

SAXIFRAGA ROTUNDIFOLIA is a well-known handsome basket plant for the window, which makes a most graceful object, but which is liable, however, to green fly, and which must be fumigated often ; so also are **S. Japonica** and **S. sarmentosa,** each of which make good basket plants.

SEDUM ACRE ELEGANS VARIEGATUM affords a good and elegant basket plant for the window, and is easily enough grown. Bed the plant in a close cork or wire basket with moss and leaf mould and turfy loam, press the soil about it firmly, and water, and then hang it up by a wire hook. It may be easily propagated by cuttings inserted in pots of peat.

TROPÆOLUM POLYPHYLLUM is a fine basket plant which, if managed well, will excel every other in effect.

IV. PLANTS SUITABLE FOR EAST AND WEST ASPECTS.

ACHILLEA or **MILFOIL.**—This species is composed almost entirely of hardy herbaceous shrubs, one of which, **A. tomentosa,** is a useful and neat hardy evergreen creeping plant, with yellow flowers, suitable for boxes outside the window. It is very dwarf in habit, and makes a pretty object in spring. Soil, maiden loam and sand.

ANEMONE.—For the culture of these see page 17. **A. thalictroides** is a dwarf, hardy, white-flowered variety, well

suited for boxes in the window-sill. Soil, maiden loam, peat, and sand, equal parts.

ASTRAGALUS.—The variety known as **A. hypoglottis** is a beautiful, dwarf, prostrate, hardy window plant, bearing pear-shaped purple flowers, and well suited for boxes. There is also a white-flowered variety of the same character, which forms a highly ornamental plant for the window sill. Boxes, six inches deep and varying in width according to the sill; they should extend the whole length of the window-sill, and be filled with maiden loam and sand in equal parts. Good drainage is necessary.

AUBRIETIA.—The variety known as **A. Græca**, a close-growing, dwarf, hardy plant, free-flowering, and bearing an abundance of blue flowers, is good for window-sill boxes; soil, same as for the preceding plant. See page 19.

AURICULA.—Both Alpine and stage varieties are suitable for windows, the latter being easily grown inside and the former outside in pots or boxes, but better, I think, in boxes than in pots; and in the west aspect, which is certainly preferable to the east. The Alpine varieties make excellent plants for boxes outside, where they will flower and do well, provided that the boxes are seven inches deep and six inches wide; if eight inches wide, two rows may be planted in the box. The drainage should be perfect, and then two inches of light coarse siftings from the compost should be first laid over the crocks. Then fill the box up with a compost made with one part leaf mould, one part maiden loam, and one part old pulverized cowdung, and one part sand moderately fine, but not sifted. The plants should be put into the flowering pots and boxes in *September* or before, but not later. No cold will injure them, but too much wet may. By no means over-nurse the plants, for if you do, you will lose them, for the auricula cannot endure too much indulgence. As the days get hot and the flowers are over, place the pots and boxes containing them in a north aspect till *September*. They may be multiplied by offsets in *August*, and may be raised from seed sown in pots or seed pans in *February*, using the same soil as described above, but made fine by sifting.

***BEGONIA.**—Many foliaged varieties, as **B. Rex,** etc., are suitable for east and west aspects. For culture, see page 20.

CAMELLIA.—Camellias will do well inside, in a good east or west window, provided they can be induced to make an inch or two only of new growth every year after flowering, which may be done by keeping the plants close and giving them a few waterings once a week with the liquid manure from the time the flowers commence to expand. When the plants have done flowering place them in the open air under a north wall till the end of *October*, when they may be brought into the house again.

CAMPANULA.—Many of the Campanulas will do under these aspects, as well as in the south window, see page 24. The same varieties that are named there may be grown with **C. Carpatica,** blue, and **C. Carpatica alba,** white, and **C. Garganica** and **C. Elatine,** of which the first-named three are suitable for boxes outside the window, and the last for a pot or basket inside, and a beautiful thing it is for such a purpose. For management, see page 24.

CLEMATIS MONTANA, a good window-sill box trailer, with white flowers, which will beautifully drape the window-sill when in flower.

CRUCIANELLA STYLOSA.—A very free flowering, free growing hardy trailer, with heads of red or deep pink flowers. The plant will do well in a box on the window-sill outside, and form a handsome object there.

CYCLAMEN.—The management is the same as for plants of this kind kept in the "south window," see page 26.

DAPHNE.—Of these there are several sorts, as the Spurge Laurel and Mezereum. They can be kept within doors. Their management does not require any special notice.

DIANTHUS.—The management is the same as for plants kept in the "south window," see page 27.

D. medius or **Mule Pink.**—These will grow well in a good deep and wide box, seven inches deep and eight inches wide, filled with good maiden loam, old dung, and sand, in equal parts, and will make beautiful objects when kept well watered.

DRABAS.—There are many sorts of this plant of compact habit, excellent for boxes for the window-sill outside, see page 27.

EUONYMUS or **SPINDLE-TREE.**—A class of very hardy handsome evergreen shrubs well suited for the constant decoration of windows, balconies and for large pots and tubs, at the entrance to the house. The gold and silver variegated kinds are very handsome as ornaments, and may be kept to any size desired by cutting-in. The soil should be maiden loam and sand well pressed into the boxes or pots, and the plants should be well supplied with water in the summer.

FERNS.—All ferns, both half-hardy and hardy, will do well in pots inside the window, and some will thrive outside. The best for outside window work in boxes are **Blechnum spicant** or **Spiked Blechnum, Blechnum borealis, Lomaria spicant, Osmunda gracilis,** and some others. The last-named fern is a beautiful prostrate plant, with dark green foliage. It requires a cool shady spot and abundance of water. Among useful ferns I may name **Grammitis, Gymnogramma, Adiantum capillus Veneris** or **Maidenhair Fern, Asplenium,** and **Ceterach officinarum** or **Scale Fern.** This last-named fern is a splendid dwarf variety with thick foliage, it may be termed woolly-coated, and has the lower part covered with thick scales. It is a handsome species for shallow, well arranged boxes, which must be well drained. The soil suitable to it is composed of maiden loam, sand, and old mortar, equal parts, and the drainage should extend fully half up the box. The plants should be well bedded in the early spring about *March* or *April*, and then be well watered and placed in a shady dry place upon the ground for two months, when they may be placed in the west or north-west window, where they may remain for ever after, for this beautiful little dwarf and rare and hardy fern will endure any thing but a warm place and too much coddling, and will live for many, many years in the same spot or box without fresh soil; indeed this fern above all others dislikes removal or being disturbed.

Asplenium trichomanes, or **Maidenhair Spleenwort** is

another handsome window-sill box plant, which has handsome long pinnatifid fronds of a deep green colour. It is of a hardy constitution, compact habit, and long life, and makes a remarkably handsome evergreen window-sill ornament. It requires the same treatment and soil as the ceterach. Both these handsome miniature ferns may be found in abundance in certain localities in *Devonshire*, at all elevations.

Asplenium marinum or **Sea Spleenwort.**—This species is a handsome compact growing plant, with dark green pinnate foliage. The fronds are short, stout, and robust, and of a deeper glassy green than any other I am acquainted with, except **Blechnum borealis**, but it exhibits a richer colour than the latter fern, and will make a very handsome pot plant inside the window, either in a *north-east* or *west* aspect, and will do well in a *Wardian case.* It requires rather a moist atmosphere, or, at least plenty of water, with free drainage. It will also do well in boxes as for the **Ceterach.**

Onoclea sensibilis.—A splendid light green dwarf species, which makes a handsome pot plant in the window, and also a good box plant outside, in a sheltered spot, treated the same as Asplenium marinum.

Then there are the **Scolopendrium** or **Hart's-tongue Fern, Asplenium adiantum nigrum,** or **Black Maidenhair Spleenwort,** and some **Polystichums,** all of which are hardy and well worth growing, either inside or outside the window, by all persons, and may be made quite equal in effect to many of the greenhouse ferns, and are even handsomer than some of them. The pots for ferns should be well drained, with a compost of chopped up peat and sandy maiden loam, but not sifted, and abundance of water should be given them all through the summer, with an occasional watering of liquid manure. This will give a high colour to them, and will promote extra strong development of fronds. A partial shade, either in a *west* or *north* aspect preferred.

GENTIAN.—The management is the same as for plants grown in the *south window.* The varieties of this plant suit-

able for window culture will do quite as well in a west aspect, or even better, although they will not flower so early.

GEUM REPTANS. — A creeping variety with yellow flowers, well adapted for boxes in the window-sill outside. The flowers of the geums are like those of the potentillas, and are showy.

GLOBULARIA NANA. — A close growing procumbent plant, which has abundance of blue round-headed flowers all the summer, and makes a pretty object in a box on the window-sill.

GYPSOPHILA REPENS.—A creeping and free flowering plant, of hardy constitution, with white flowers; a charming plant for a shallow box outside the window. It should be well drained and planted in soil composed of maiden loam, leaf mould, and sand, equal parts. It may be multiplied by seed and by division.

HEATHS.—All the hardy and dwarf heaths make handsome evergreen flowering window-sill ornaments, if nice young healthy dwarf plants are selected and planted in boxes seven inches deep, eight inches wide, well drained and filled with pure sandy peat, and kept well watered through the summer, and once a year cut over or clipped to keep them compact and neat after flowering. Very pretty window-sill ornaments these, for all classes and localities. In many localities the plants may be had for fetching, but young entire plants should always be selected for planting. For window boxes, perhaps, the best are the heaths known as **Erica vulgaris**, and its handsome varieties, some of which flower freely, and have blossoms marked with handsome shades of silvery white, and **E. carnea**, whose blooms are distinguished by many handsome shades of sanguine red and purple red.

HEPATICA.—The management is the same as for plants grown in the "south window." See page 32.

LILY OF THE VALLEY.—This will do well here, and even in the north window, if well planted in pots, deep seed pans, or boxes about *November*. Two- and three-year old

clumps of these may be had for about 1s. each. These clumps are prepared by the growers, and are full of flowering buds, and will produce as many as twenty to thirty spikes of flowers to each. These entire clumps should be potted singly in 7-inch pots, using maiden soil and pit sand in equal parts, made fine and well packed round each clump in the pot. One or two crocks may be placed over the hole in the bottom of the pot, which will be quite enough, for too much drainage is not good for lilies of the valley. The crowns should be kept below the rims of the pot; the plants should be kept well watered and never allowed to become quite dry. Single flowering crowns may be had also at about 5s. per 100, and flowering buds may be had for gathering in some localities. The flowering buds can be distinguished from the leaf buds, by noticing that the former are round headed, while the latter are thin and tapering to a narrow point. These single crowns should be potted as thick as they can be conveniently laid in, at about the distance of an inch and a half apart. Fine sifted soil must be used, as for the clumps; make the soil firm, bed the crowns upon it, and then cover the crowns half-an-inch all over with fine soil, working it well among the roots, and finally soak the whole well with water from a water-pot with a coarse rose, to settle the soil among the roots. By those who can command heat, these fresh potted lilies may be plunged up to the rims, and subjected to a very mild moist bottom heat, which will encourage early flowering. Or they may be placed in a cold frame or pit, or upon the floor of the greenhouse, or under a south wall till they begin to show flower, when they may be placed in the window and be kept well watered. The lily may be grown in the south window as well, but here they will last longer in flower. After flowering, the pots, pans, or boxes, whichever they may be grown in, should be removed and placed under a north wall for the summer, and a few waterings with liquid manure given them to promote the development of the new buds. This should be well attended to throughout the summer months until *September*, when the waterings may cease. The plants, if allowed to remain undisturbed, will flower as well

as they did the first season, and the foliage will be much better the second season.

LINARIA ALPINA.—This and **L. pallida** are two Toadflaxes of procumbent growth, with fine green leaves, and masses of deep purple flowers. These two plants are remarkably well suited for boxes outside the window at all elevations, where they will form handsome hardy window ornaments, lasting for a long time. The boxes should be well drained and filled with sandy loam and peat, which must be made firm before inserting the plants; three or four plants will fill a long box. The plants may be raised from seed, and may also be multiplied by division of the root.

LYSIMACHIA NUMMULARIA. — This beautiful and hardy window-sill box plant, with its brilliant yellow blossom, is well suited for all elevations. It is very ornamental and handsome in leaf; soil the same as for the linarias or toadflaxes.

MIMULUS.—These are well adapted for pots and boxes in this aspect outside the window on the ground floor where sheltered from winds, and for this purpose **M. cupreus Brilliant** should be selected. This variety is of a good habit and of a bright scarlet colour; it may be raised from seed and also multiplied by divisions. The soil should be maiden loam, old decomposed manure, and sand, equal parts; the plants must be kept moist during summer.

M. moschatus or **Musk.**—The old musk is the best, there can be no doubt. See remarks on this plant in page 37.

MYOSOTIS. — All the forget-me-nots will do here, and **M. palustris** more particularly, whether raised from seed or by divisions in the spring. The seed should be sown in *March*, but propagation by division may be deferred till *June*. In either case put the plants in the pots or boxes, which should be firmly filled with adhesive sandy maiden soil, as soon as they are ready, and encourage them to grow as much as possible by keeping them moist, so as to fill the pots or boxes full of roots, and in the spring they will present one mass of bloom of an even and symmetrical a character beyond comparison, and will form one of the prettiest window-sill ornaments to be

found ; but do not by any means take them inside, for they are quite hardy and do not like indulgence, and like the auricula will soon show their dislike for it, but water in abundance must be given.

MYRTLE.—The narrow-leaved myrtle will do well here, as well as will the broad-leaved kind, either east or west, but the plants must be kept inside the house through the winter months. They may be set outside from *June* till *October*, or even till *November*, and then the foliage will get washed by the rains. The pots should be well drained, and the soil should be composed of maiden loam, leaf mould, and sandy peat, equal parts. The myrtle may be struck from cuttings of the summer's growth taken off in the early autumn, as soon as the young side shoots are half ripe, and when about two or three inches long. Some slip them off, which will do equally well if not too long, and some strike them in bottles of water. The short side-shoots should be taken off with a little heel of the old wood, or at least a base of the bark to the cutting, nicely cut over with a keen-edged knife (penknife, or small trimming or budding knife), and then be inserted into pots filled with soil, composed of fine peat or leaf mould, maiden soil, and sand, equal parts, made firm in the pot. Insert them into the soil half-way up the cuttings, making holes to receive them with a clean and blunt-pointed small stick about the size of a penholder, and let the base of the cuttings rest upon the bottom of the hole. Close the soil well about the base of the cuttings and well water them, and then if a mild heat is at command plunge the pots of cuttings up to the rims in some plunging material, and place a bell glass over them with some ventilation at top. Every cutting will strike root quickly here, but if no heat

is at command place them under a handlight or in a cold frame. If none of these are at hand, place the pots of cuttings in the window in larger pots, filled with clean damp sand or saw-dust. This will keep the soil in the cutting-pot nicely moist. Place a bell-glass over them fitting inside the outer pot, as in the illustration opposite.

Amateur gardeners will find this a safe and sure plan of striking myrtle cuttings. 3-inch pots may be used for the cuttings, which will hold six or eight cuttings, and each pot may be plunged in a 5-inch pot filled with sand, and a large common tumbler placed over them instead of a bell-glass. As soon as the cuttings are rooted take off the glass, and when they have made an inch of new growth nip the points out, and in the course of a month or so after pot them off singly into small pots.

PANSY.—Pansies and violas may be grown on either east or west window-sills outside the window, in deep and wide boxes, well made, and filled with tender maiden loam and the sweepings of the road in equal parts. These sweepings should consist of the sand and droppings which may be found drifted by the roadside during high winds. This should be gathered as opportunity occurs of doing so, including as much of the pulverized horse droppings as can be had. The quantity collected should be laid up in a heap, and when wanted in the autumn or spring to form a good compost, equal parts of each should be taken. Fill the boxes, making the soil moderately firm, and plant one row of plants in the box at about seven or eight inches apart. The plants should be nice and short young ones and not old roots. If these are planted in *March* they will present a gay and pretty ornament all the summer, if they have plenty of water, and one or two liquid manure waterings, not too strong, at intervals of a month. It will be necessary to replant the boxes, using fresh compost every year, as pansies deteriorate or get worse after each season, and new young plants should be substituted. The propagation of either is easy enough, either by cuttings or by seed. The *Violas* will generally come true from seed, which may be sown in *August* and *September* in

pans or in the open ground in fine soil; but pansies are more liable to sport from the original. These and the violas may be multiplied by cuttings of the colour and kind most desired. Select cuttings of two inches in length which rise from the middle or heart of the old plants, taking them off close down to the ground, and then insert them in pans, pots, or boxes, or even the open ground in a shady side, using the same kind of soil as for the window boxes, and water them well. As soon as they are ready, both seedlings and plants from cuttings should be pricked out three or four inches apart, and where planted they may remain till spring, when they may be planted in boxes as described above. For the sake of those readers who may look more at 2/6 than at good quality in the future results from the seed, I must just observe that it is a rare thing indeed to get really good pansy seed from the ordinary dispensing seed-shops at 6d. and 1/- per paper. It is best to pay a higher price for a less quantity of seed. Violas may be had at a less price per paper, and true to colour and name too, and once you obtain them there will be no occasion to buy again.

PHLOX.—Phlox nivalis, white; **P. verna**, red; **P. stolonifera**, mauve colour, are all fit subjects for boxes on the window-sill outside the window, being either creeping or procumbent plants, and abundant flowerers early in the spring. Those who prefer white blooms will be delighted with the first-named one as a window-sill box plant. The whole of them are very hardy, and will do well in the window at all elevations if well cared for in watering, and by setting them in a close soil, somewhat adhesive, and a little sandy. The autumn is the best time to put the plants in the boxes, otherwise the planting may be done in *February*. From four to six plants will be enough for a box the whole width of a large window—say three feet six inches long. Phloxes may be multiplied by cuttings and division at all times.

POLEMONIUM REPTANS is a beautiful and hardy creeping plant, with panicles of blue flowers, well adapted for boxes on the window-sill. So also is **P. cœruleum variegatum.**

PRIMULA.—See the treatment of varieties of this plant, especially the hardy classes, as described in page 39.

SAXIFRAGE.—The management is the same as for plants grown in the south aspect. See page 40.

SEDUM.—The hardy species will do well here at all elevations and in all localities. See page 41.

SEMPERVIVUM.—A splendid class of hardy self-supporting window-sill plants. A shallow box filled with **S. arachnoides** has a very singular effect, like hoar frost in summer, the whole plant being covered with a white web, similar indeed to what we sometimes see on a frosty morning in the autumn. It is a most peculiar, compact-growing plant, throwing up stems six inches long, each of which has star-like purple flowers at the top. There are many other varieties of this plant, all of which form handsome window plants, either inside or outside. They require the same treatment as the sedums and the echeverias. See pages 28 and 41.

SIBTHORPIA EUROPEA VARIEGATA. — This is a most charming, half-hardy, creeping plant, having creamy-white foliage with yellow flowers. It forms a splendid window-sill plant for the summer outside, and does well inside in winter.

SILENE ACAULIS EXSCAPA and **S. ACAULIS ALBA,** the former having red blossoms and the latter white, are two exquisite but hardy window and rock plants, with moss-like foliage, well suited in this aspect for boxes outside the window, where they will form charming ornaments at all elevations and in all localities. A box of each colour would form a handsome contrast. The boxes should be filled with maiden loam, leaf mould, and sand in equal parts, and the soil must be well pressed into the boxes before the plants are put in.

S. maritima flore pleno, a most charming and desirable procumbent, free-flowering, close-growing, window-sill plant, with double-white flowers, that it is possible to have for such a purpose. No one should omit to grow these choice window ornaments.

SOLDANELLA ALPINA.—A close-growing, roundish-leaved plant, with dark green foliage, and bell-shaped and

fringed blue flowers, affording a useful and hardy plant for the window-sill and rockery. It is a very pretty and, I may say, curious plant, well worthy of a place on the outside window-sill. The soil used should be sandy, close maiden loam, and the plant should be well watered through the summer.

SPERGULA PILIFERA AUREA. — A close-growing window-sill or rock plant, with yellow foliage, which forms a handsome plant for a shallow box at all elevations.

STATICE, or SEA LAVENDER.— For management, soil, etc. see **Armeria,** page 18, as the same method of treatment should be adopted for each plant.

VERONICA INCANA.—A lovely and very hardy and most desirable window-sill and rock plant, six or eight inches high, with purple flowers.

Many of the *Terrestrial Orchids* will do well under this aspect in pots, and form a very interesting feature.

Most of the basket plants named for the south aspect will do here, and also many of the climbers.

V.—PLANTS SUITABLE FOR NORTH ASPECT.

Many of the plants named for the west windows will do well here, especially hardy ferns, and also many half hardy ones. Indeed, a north aspect is preferable to any other for hardy ferns. The ferns like subdued light, and a north aspect suits them best and conduces to a good colour in the fronds. Among plants suitable for a north aspect may be named the **Lycopods, Nertera depressa, Sedums, Saxifrages, Myosotis, Mimulus, Violas, Pansies, Vincas or Periwinkles,** and all hardy **Primulas.** In addition to these are the beautiful fern **Osmunda regalis,** placed in a pan of water, **Auriculas, Lily of the Valley,** and all hardy shrubs for balconies, as **Euonymus, Thuja orientalis or Chinese Arborvitæ, Aucubas, Retinosoporas** and **Spanish Broom,** which has a beautiful effect in a large pot when in flower. For cubical boxes, or large pots, I may name the **Hydrangea,** with **Polygonum vaccinifolium,**

to hang over the edges as drapery, for which purpose this plant is well adapted; it is as hardy as the oak. Any hardy **Clematis, Ivies,** etc., and **Climbing Roses,** as **Dundee Rambler, Queen of the Belgians** and **Splendens,** myrrh scented, are well suited for window drapery outside the window. These are hardy and beautiful and will do well either in large pots or boxes trained on strong cylindrical wire trellises five or six feet high on balconies in this aspect; and the same sorts and similar kinds with hardy clematises and honeysuckles put into large pots or tubs, and placed upon the ground outside, and on one side of the window, and then trained round the window, so that the flowers can be seen from the inside, forming a handsome wreath of white, red, or blue, as may best suit the taste, will have a beautiful effect. These of course, may be planted permanently in the ground where it can be done. Thus the north window may be made equally as attractive as the south window by selecting hardy classes of plants suitable for the aspect.

VI.—IMPLEMENTS AND APPLIANCES FOR WINDOW GARDENING.

BOXES.—Window-sill boxes for the outside should be made either of oak or red deal, the wood being not less than three quarters of an inch thick for ordinary sill boxes, and one inch thick for large boxes; and the boxes should be made to fit the whole width of the window and be not less than six inches wide and the same in depth. The various parts should be strongly nailed together and the bottom drilled with holes half-an-inch in diameter, bored clean through, or burnt a little after with a round hot iron, otherwise they are apt to get filled up all the more easily from the roughness of the inside of the holes. On the bottom and at each end of the boxes, a half-inch ledge should be nailed to raise the boxes a little from the floor, so that free drainage may be ensured. For strong growing plants, the boxes should be wider and deeper. The boxes should be well painted outside before they are used and allowed to get thoroughly dry. The best kind of window-sill box is one made

of *terra cotta*, which can be had of the makers to measure, of the dimensions given for the length, breadth, etc. These *terra cotta* boxes should never be painted. The cost of making the wooden boxes may be calculated at one penny per foot run for the board seven inches wide. The nails and making would cost about 6d. altogether. Thus a box three feet long would cost 1/3, and painting 3d. Such a box made with deal would last for a number of years, and most men can make them for themselves, the job affording employment for spare time of a winter's evening which would ultimately be turned to good account in the following summer when such window ornaments are well got up and furnished with some of such plants as have been already named and plainly treated upon. Indeed, when these are in full display, some lady or gentleman may pass who would give a handsome price for such a thing, and besides this, there is the reputation and credit attached to it, and there may be a silver award cup into the bargain.

WATER-POT.—It is almost impossible for any one to achieve success in growing plants without a water-pot to water the plants with: it is true, plants can be watered with a jug, but a small water-pot holding from two to four quarts, with a long spout and a small fine rose is best, for then the plants can be easily watered overhead when they require it, which is very often in summer and especially when by the roadside, for the dust will lodge upon the foliage, and it is desirable that this should be washed off frequently. Indeed such a pot can scarcely be dispensed with anywhere, for plants will get the green fly, and should be washed after fumigation. As soon as the watering is done, empty all the surplus water out of the watering-pot and turn it up to drain and let it remain thus till again required. When it is treated in this manner, a pot will last good considerably longer; and once a year water-pots should be painted in the bottom and some inches up the sides inside. This will preserve them for many years. I have known water-pots to be good after twenty and even thirty years' use by due attention to these one or two particulars which seem but trifling. Galvanized-iron water-pots are perhaps the best.

SYRINGE.—The syringe is a most useful implement where large quantities of plants are grown, and, indeed, where only a few are grown also.

KNIFE.—It is impossible for anyone to make a cutting of even a geranium without a small, keen-edged knife: this may be a pen-knife, or a small trimming or budding-knife.

WATER-PANS.—It is difficult and objectionable in general to have plants standing upon valuable tables in the window. The best thing is to have a class of saucers to set the pots in which are perfectly non-porous so that no damp can get through them. These may be porcelain or glazed, enamelled, terra-cotta, or glass, but the best plan is to have a wire flower stand high enough to bring the plants well up to the glass and to the light.

POTS.—Flower-pots may be placed in ornamental covers, but should never be made of any material less porous than the ordinary clay used for this purpose, well burnt. Glazed flower pots are highly detrimental to the health of plants, for the roots require air as well as the branches; and very fine grain pots are not good for plants for the same reason. Every time a pot is used for a plant, it should be rubbed round with the hand inside to cleanse it from the soil, etc., remaining from the last potting.

TRELLISES.—These may be bought of any size and shape, but they may be made by anyone who cares to try his hand at the work. I have frequently procured some wire netting and cut it to the shape I required, and then bound the outer edges round stout wires, leaving the ends of the latter projecting beyond the netting to go into the pots. Thus may be easily made cylinders, globes, and flat trellises, upon which to train the plants requiring supports of this kind.

GLASS CASE.—Those who can get what are called "Wardian Plant Cases," can generally get even better means for growing plants in the shape of small attached conservatories, greenhouses, or pits, but I have not entered on a description of the management of any of these in this work, because I am convinced that the class of persons for whom I am writing on

the effective growing of window plants cannot well afford money to obtain these glass plant cases. Moreover, it is my aim to show how to dispense entirely with such things as these, which I know can be done if my instructions are strictly followed, for I have done a good deal of this kind of work myself, I am still growing plants in the window, and know full well that all the plants I name, and a great many more species and varieties, can be successfully grown without any glass beyond the window itself. I have written thus for the million who can grow window plants, and not for a few. But those who can may avail themselves of some useful kind of glass structure with advantage. Such a thing as a good cold frame of small size and a handlight or two are very useful adjuncts to ordinary Window-Gardening. But I do object, even were means at command, to window greenhouses and Wardian Cases, especially the former, for they are very inconvenient, and not at all adapted to the requirements of nine tenths of the people who like to grow plants in windows. The construction of such a thing and a good Wardian Plant Case fit for the more affluent class of growers, will cost as much, or even more than a good sized plain two-light box and sashes which can be put to more uses than window plant nursing till fit for the window. But it has been my aim to write chiefly for the instruction of those who have not a foot of ground on the ground floor and who still can grow handsome window ornaments.

FERN-CASES.—Those who can afford it may have fern-cases for the more delicate classes of ferns, and these may be utilized for the striking of some sorts of cuttings for plants for the window, but good fern cases are expensive.

SOILS AND SAND.—Those who want to take a place at the head of the competitors' list in growing window plants must not forget to help themselves onward to the desired goal by laying up in readiness say a barrow full of each class of soil named in this work, viz: one of good peat, one or two of leaf mould, one of maiden soil—that is, the top spit from a good common or pasture, and one of clean fine sand—good pit sand of a sharp nature will do, but care must be taken there is no

mundic in it for that will kill many plants; stonemason's sand is equally objectionable, but clean, fresh-water river sand will do; and so will the pit sand found in strata, in sand and gravel pits, and silver sand which is the best of all. Leaf mould is best made by collecting leaves in the autumn and laying them up in a compact heap to rot. The leaves should be packed up in a corner, separately out doors, and the heap turned over every now and then. One or two barrowfuls of cowdung will be found exceedingly useful when it is one or two years old and has got pulverized. This will be found useful to mix with soil for many classes of plants as auriculas, primulas, orange trees, cyclamens, oleanders, vallota, achimenes, kalosanthes, begonias, calceolarias, cactuses, stapelias, and other plants. These soils, etc. being in readiness, the work is more than half done, and success more than a matter of doubt, but when proper soils have to be looked for here and there, and then the proper quality perhaps not obtained, or if it be obtained, is impregnated with the eggs or larva of insects, disappointment is almost inevitable, besides the loss of time in searching for good composts or the component parts which form it. The compost heaps should be well protected from cats and hens, which are sure to do harm by scattering the soil, which exposes it too much and causes it to lose its fertilizing power. The soils and manures should all be packed up in firm heaps and when any of them are required, the quantity necessary for immediate use should be cut clean out of the heap, leaving the remainder compact.

PART II.—THE FLOWER GARDEN.

MOST country towns and villages, as well as the suburbs of large towns and cities, have villa residences and detached cottages with a portion of ground attached to them which is usually set apart for a flower garden ; some of these, indeed most of them, are small, and some are nicely set out with floral and suitable garden accessories, but a good many are still lacking somewhat in good order from some cause or other, and a still greater number are far from perfection. Small flower gardens as a rule are very much behindhand in this respect, which chiefly arises from want, on the part of the owner or tenant, of the fixed determination necessary to accomplish the object desired, and the interest necessary to bring about a beginning. Prizes are offered by local committees for flowers grown in these gardens and for window plants, yet men would rather lose the prizes than take the interest necessary for the formation of a good first-class flower garden notwithstanding the beauty of the thing and gratification which will arise therefrom, and that chiefly as a matter of time and as a means of recreation. It is almost impossible to lay down rules for the furnishing of a flower garden on account of the various forms, soils, and situations of gardens ; I may venture, however, to endeavour to give directions approximately for the management of small places under various aspects as for the window.

I.—FLOWERS SUITABLE FOR SOUTH ASPECT.

Gardens with a southern aspect lying very warm in front of the dwelling-house and being for the most part small, should be planted with flowers of a suitable character, namely, a dwarf stature and neat habit. All of the plants grown for the sake of economy should be of hardy constitution, then one expense only will be necessary in the main, and for this here is a list of plants suitable in every respect for very small front south gardens; but, as I am going to write of flowers some of which are suitable for the edging of beds and others for the interior of the beds, I will not strictly adhere to the alphabetical order of arrangement adopted in Part I.

***CROCUSES.**—The large yellow, white, and blue crocuses may be planted as edgings or inside of the edgings closely and allowed to remain for years undisturbed: they will improve as years pass on.

The beds may be planted with the following flowers, either in groups or in masses occupying the entire bed.

***ANEMONE FULGENS**, which has scarlet flowers, is one of the most brilliant and showy of the hardy perennials that can be found, and may continue for years in the same place. Soil for Anemones should be sandy, and leaf mould should be added.

***CAMPANULA TURBINATA.**—Of this there are two sorts, one a blue and the other a white variety, but both of them showy, hardy perennials of dwarf habit. They are excellent for beds, the centres composed of the blue variety surrounded by a belt of the white variety, or *vice versâ*.

***PHLOX.**—Select varieties of the perennial **P. suffruticosa** class which are very beautiful, flowering profusely from *June* to *August*, of all shades of colour, and of good substance and fragrant. These charming plants should be put in about six inches apart. A selection may be also made from the extra **dwarf P. decussata** section for small beds.

***PINK** or **CARNATION.**—Good named and choice prize varieties of these look well in juxtaposition in beds; the pinks being the best for ordinary growers. Either of these will make

a good centre bed of great and lasting beauty. The soil should be made rich and light with leaf mould and sand. Plant in *October* nine inches apart, and if possible plant the best sorts, which when once possessed need not to be purchased again. They may be propagated by layers in *July*, in order that a stock of new plants may be kept up. These will, without doubt, take many prizes, and may be grown with no more trouble than the commonest sorts.

ROSES.—Again, the bed or beds may be permanently planted with roses of the **Tea-scented China** section, the **Bourbon** section, or dwarf-growing **Hybrid Perpetual** section, on their own roots, or worked upon stocks close to the ground, and pegged down over the bed. These will form splendid permanent beds.

CLEMATIS.—As another alternative the bed, if a good sized one, may be planted with one **Clematis Jackmani**, which has a large flower of an intense violet purple hue. This plant will cover a good-sized bed when it is pegged over the surface nicely, and will make a splendid show. Clematises of some other colour may be planted according to the taste of the grower, as **Lady Bovill**, lavender; **Albert Victor**, deep lavender; **Lucie Lemoine**, double-white; or **Mrs. Bateman**, white; each of which yields fine flowers and will form a splendid bed of a permanent character. The soil should be well drained, and of a porous nature, with a good proportion of sand in it, and the bed should be worked up in a good convex surface well above the level of the path or turf that surrounds it.

EDGINGS FOR BEDS.—The beds and borders may be edged with various other plants, besides the crocuses already mentioned, and of diverse colours, as ***Hepaticas**, single and double, blue and red; and also ***Gentianellas**, blue, ***Echeverias**, ***Sempervivums**, ***Sedums**, and ***Saxifrages** of a hardy class. The last four kinds should be planted four or five inches apart, having an outer edging as a curb next the path of terra cotta tiles or stones, placed so that the soil within may be raised, and the plants set just inside, so that they may grow over the stone or other dead edging, four or five inches above

the level of the path. The soil, as for the clematis, should be made open and porous with leaf mould and sand, if not naturally so. There are a number of other things which may be used as edgings for these diminutive front gardens of cottage and small villas, of which we see so many either not planted at all, or otherwise done with plants that are not well adapted for them. Among other plants suitable for edgings I may name—

***ACHILLEA TOMENTOSA.**—A dwarf, perennial, creeping plant, with white foliage and yellow flowers, very neat and pretty, and blooming early. ***A. umbellata** is also a very neat and pretty white-foliaged perennial for an edging, bearing white flowers.

***AUBRIETIA GRÆCA.** — A compact-growing, hardy perennial, with blue flowers ; is a good plant for an edging.

***CAMPANULA MURALIS** is a neat and compact-growing plant for edgings with abundance of blue flowers, and a remarkably handsome, hardy perennial for the purpose under consideration.

***DIANTHUS DELTOIDES.**—This plant is of two colours, pink and white. They are both good for edgings, being very neat, and flowering freely.

***DRABA INCANA.**—The drabas are all pretty dwarf plants for edgings, but the one named is a most beautiful carpet-foliage plant, forming a perfect surface, with hoary green and white flowers.

GLOBULARIA NANA is a pretty close-growing procumbent or creeping plant, well adapted for an edging.

***LYSIMACHIA NUMMULARIA.**—Is a good edging plant, with handsome foliage and brilliant yellow flowers. Excellent for boxes and baskets of large size.

***PHLOX.**—There are numerous varieties of phloxes that form compact edgings for these small gardens, which may be selected according to taste, as **P. verna**, red ; **P. nivalis**, white.

***BOX** is an evergreen that is too well known as an edging to require description.

***THYMUS CITRIODORUS**, or lemon-scented thyme, and **T. variegatus**, or variegated thyme, also form pretty edgings.

***ARABIS ALBIDA VARIEGATA**, a beautiful, yellow-leaved edging plant, and **A. Lucida**, may complete our list, in which, I think, there is variety enough for every purpose for this class of garden in the form of hardy edging plants.

SUMMER BEDDING PLANTS.—We may now take into consideration the plants that are most appropriate for what may be called summer gardening, in which we must use such bedding plants as ***Verbenas, *Dwarf Calceolarias, *Scarlet Geraniums, Anagallis Indica** or Indian Pimpernel, **Gazania pavonia**, etc. The two plants last-named require full exposure to the sun, and are only suited for a spot where they can get a full share of it, when those who grow them will find that there is nothing among plants that can possibly surpass the effect that each produces, the former in blue and the latter in yellow, during the entire summer. The **Anagallis** can be raised from seed in *March* and then planted out at the end of *May* in good light soil. The **Gazania** can be had from cuttings, which strike freely in *March*. **Gazania pavonia** flowers much more freely than **G. rigens** or **G. splendens**. Then there are the varieties of the beautiful **Petunia** and two sorts of **Ageratum**, one white and the other a beautiful soft sky blue. The dwarf ***Victoria aster**, which flowers profusely, and the **German Ten-week Stocks** may be strongly recommended. These stocks are the most reliable for double flowers, and in this respect I have proved them to be far superior to the English Ten-week Stock. The reason is obvious. The Germans take more pains in saving the seeds. If the seed is obtained from reliable sources, and the best I ever had I obtained of *Messrs. Lamoureux & Co., of Plymouth, Devonshire*, the result cannot fail to be satisfactory. Those I grew yielded white, scarlet, purple, and crimson blooms, and I think I may assert for a truth, that two plants out of every three were of the finest double quality. Without doubt, seeds of the same quality may be obtained of other good seedsmen, but a good price must be paid for the best quality in these as in everything else. However, a 3d. paper of each sort of the best quality will produce more plants than can possibly be wanted for the generality of

these small front gardens. The best sort or class to choose is *"**Dwarf German large-flowered Ten-week Stock,**" in separate colours. Get the colour most desired in *February*, and sow the seed in the beginning of *March* in seed-pans filled with leaf mould, one part, maiden loam, one part, and sand, one part. Make the mould and loam fine and sift them through a sieve with ¼-inch mesh. Then add the sand and mix all well together. Two 9-inch seed-pans will be required for a 3d. paper of good seed at the least. Put a few crocks over the hole in the bottom of the pans, fill the pans with the soil, and make it tolerably firm and even, and then sow the seed evenly over the surfaces, and cover it a quarter of an inch with fine, light, half-dry soil. Place the pans under a hand-light, in a cold frame facing the sun, or in a heated frame or house, but do not water the seed for some days, after which sprinkle it lightly with a fine rose so as to reach the seed. As soon as the seedlings are well above the soil give air freely by day, and as soon as they are two inches high plant them out in fine and good ground four or five inches from each other, in rows six inches apart. Do the same with the **Asters.** Each of these are superior summer bedding species, and are most suitable things for a small front garden with south aspect.

***PHLOX DRUMMONDII** and the **Portulacas** are superb plants for small summer gardens, being dwarf in habit and free to flower. The **Portulacas** should be treated in the same manner as the **Anagallis,** for which see page 68. The Phlox and Portulacas must be raised from seed sown as the Stock seed, but it is better to raise them in gentle heat, and the soil may be a little lightened by introducing some additional leaf mould, peat, and sand into it, and well mixing them with the common soil of the bed to a depth of four or five inches ; then, without doubt, there will be a fine display of colour when the plants break into bloom.

***VIOLA.**—Of this species of flowering plant we have blue, white, and yellow varieties in clear colours. These make most showy beds, always bright, with a succession of flowers throughout the summer.

II.—USEFUL ANNUALS FOR THE FLOWER-GARDEN.

For those who cannot afford to go so far into the matter there is still left a more simple and economical mode of securing a gay and beautiful garden during the summer season. To accomplish this it is only necessary to take a little trouble at starting to prepare the soil for the reception of the seed. This is a very important matter, more important than many appear to think, for generally the ground is left undug and unprepared till the moment the seed is to be sown, or else it is dug up and soon after, or, perhaps, at once, made too fine, merely for the sake of neatness of appearance. In each case it is a great error in gardening, and farming too, to make the soil too fine. By all means let the ground for small seeds of all classes be manured (if necessary) and turned up a full spade or fork deep, and then allowed to lie in the rough state for at least a month or six weeks after to pulverize, and then at the time of sowing the seed take a heavy hoe and break down the surface fine and do not tread over it. It is really miserable to see how some men go to work—plunging and plodding over fresh dug ground. I want my reader, who may be one of those who has never been taught gardening, to do as I myself do, and then I will vouch for his success. Now take particular notice of this :—Make the surface of the flower-bed, borders, etc., where the flower seeds are to be sown, fine, less fine, and moderately coarse only according to the nature and size of the seed, as indicated in the three examples that I will now give :—

EXAMPLE I.—For **Venus's Looking-glass** and similar seeds let the surface be finely raked and finished. Sow the seed immediately after raking and do no more to it but rub the surface over with the back of a spade. This will bury the seed quite deep enough, and so leave it.

EXAMPLE II.—For **Nemophila** and seeds that are not so fine as the preceding kind, the soil may be lightly raked off with a very coarse nail-toothed rake, but not too much, leaving the

surface half coarse, so that the seed can drop among the little nodules of mould that lie upon it.

EXAMPLE III.—For **Convolvulus minor** and seeds of this size let the soil be left moderately coarse by using the hoe only, and after the seed is sown bury the seed by chopping the surface evenly over with the teeth of a coarse nail-toothed garden rake, but do not rake the surface after doing so. Coarser seeds, as sweet peas, etc., may be drilled in two inches deep.

Generally a great deal too much preliminary raking of the soil is resorted to as well as too much after the seed is sown. The art of good gardening lies in adapting the means to the requirement of the subject to be grown ; failures arise as much from too much pampering as from a want of proper care, and we often hear of this seed or plant and that seed failing, and come to a conclusion that the seed must be worthless, though the failure, as a rule, really arises from the management or rather the want of management, the state of the soil and the time of sowing, and from the seed being sown in an improper manner, either not covered enough or covered too deep.

The soil being ready sometime in the end of *March* or the beginning of *April*, select the kind of plants most wished for in colour, observing the character very particularly, for nothing looks worse than tall-growing plants in small beds and in small gardens. The following are all annuals, which may be sown where they are to flower :—

CALANDRINIA SPECIOSA. — This is a handsome, showy, dwarf plant of two colours, rose and purple, well suited for a bed in the front garden.

***COLLINSIA.—C. bicolor, C. multicolor,** and **C. Bartisiæfolia** are all handsome dwarf plants, flowering freely, and growing from six to nine inches high.

***DIANTHUS SINENSIS** or **Indian Pink.**—This species affords charming and handsome varieties for a bed in a small front garden having a south aspect. It requires good light soil, with moderately fine surface. ***D. Heddewigii** is very large-flowered class of Indian pink, but less free to flower than the Indian pink. Soil the same as for **D. Sinensis.**

***EUTOCA VISCIDA.**—A handsome free flowering plant with blooms of deep clear blue, of exquisite character. It requires moderately fine and good soil.

***GODETIA.**—Of this species **G. Lady Albemarle,** dark crimson, and **G. The Bride,** white and red, are two extraordinarily free flowering and showy varieties, growing about a foot high. Make a moderately fine surface before sowing, and let the soil be light.

***LARKSPUR.**—The best dwarf German mixed, make a handsome bed when of good double quality. The soil should be good and light; the surface of medium fineness before sowing.

***LEPTOSIPHON DENSIFLORUS,** purple, and **L. densiflorus alba,** are two annuals that flower very profusely. The soil should be good, and a moderately fine surface should be produced before sowing.

***LIMNANTHES DOUGLASII** bears a remarkably handsome yellow flower, with white border. It flowers abundantly and is very dwarf in habit. A coarse surface for sowing is desirable.

LINUM GRANDIFLORUM RUBRUM.—This is one of the richest and most abundant flowering hardy annuals we possess, and eclipses everything in the way of annuals for beds. The soil should be of a good light kind, and a surface of medium fineness is necessary for sowing.

***MIGNONETTE.**—This annual is too well known to require description. A fine surface is required for sowing.

***NEMOPHILA INSIGNIS,** blue; **N. maculata,** white ground with purple spots, fine; **N. discoidalis,** dark maroon, with white border, are all of them handsome annuals. There are more besides, but these are among the best, and are good. Soil good and light, coarse surface for sowing.

NOLANA ATRIPLICIFOLIA, blue, white, and yellow flower; and **N. paradoxa,** are two charming hardy prostrate growing annuals, with handsome convolvulus minor-like flowers. Soil good and light, surface coarse for sowing.

***SAPONARIA CALABRICA.**—An annual, with small pink flowers, which it produces in abundance. Soil good, but not

over rich, and light; surface should be of medium fineness for sowing. Do not sow too thick.

SPHENOGYNE SPECIOSA.—One of the most showy, dwarf flowering annuals to be found, and well deserving a place in a sunny spot. Soil good and light, surface for sowing should be of medium fineness so that the seed may be covered when rubbed over with back of the rake, which operation will just bury the seed.

***VENUS'S LOOKING-GLASS.**—What an apt name this is! The plant is a most abundant flowerer. The flower stands up so as to show the interior, the colour being a peculiar deep blue, with a reflective surface, which makes it rather trying for the eyes to look at for any length of time when the sun is shining full upon them, so that when the plant is grown in masses it well deserves the name that is accorded to it. The soil should be good, with some sand in it. A fine surface should be made before the seed is sown. See "Remarks on Sowing," page 70.

***VIRGINIAN STOCK.**—This plant is of two colours—one variety being red and white, and the other yellow. The red and white variety is in general use. This is a very dwarf and free flowering hardy annual, which may be sown in the autumn when it will flower very early in the spring, and may then be pulled up, and some other annual sown in its place.

Here, then, are about twenty-four species and varieties of hardy annuals of dwarf habit and abundant flower, which are all suited for small gardens with one bed or more, and from which may be selected colours to suit the taste of all. Not one in the whole list will disappoint either in flower or character. For one bed six feet diameter, one 3d. paper will be enough of any of them, except the **Linum, Larkspur, Nolana,** and **Sphenogyne.** Of these a 6d. packet of each of the first three may be required, and a 4d. packet of the fourth for a single bed of about the size named. The chief thing is to get the seed good, and I may now take this opportunity to say to those who are afraid to purchase seed of small local seedsmen, that there is no reason whatever to come to the conclusion that because a man happens to be a local seedsman in a small way of business

he must of necessity have inferior or bad seed, for if he is at all jealous of his reputation, he being a judge will take care not to have bad seed, for he will get no more than he can reasonably expect to get rid of in the season, and if he should have any left he will throw it away. On the other hand, let me tell the reader that worthless seed is as often dispensed by large firms as by small dealers, and frequently good-for-nothing seed—that is to say, seed possessed of no vitality—is sent to amateur customers living at a distance, while the best is sent to wholesale purchasers, because they know a seedsman can tell as soon as he gets the seed whether it is good or bad, so, under the circumstances I name, the chances are that an amateur buyer will get quite as good, if not better, seed from a small local seedsman as he will from a large firm. I write this, because many will go a long way for seed, when even better can be had at home; at any rate, quite as good seed can be had of home seedsmen as of men two hundred miles away. But I advise my readers, especially those who are compelled to practise economy, to save seed for themselves every season. This is easily done, and when any amateur gardener is desirous of having a change of colour, he can surely change seed with some neighbour, packet for packet. It must be understood that in saying what I have I am in no way seeking to prejudice my readers against the seed trade, but I do so with the view to promote and keep alive a love of gardening in those who get tired of the garden because they meet with so much disappointment from one cause and another in the pursuit of horticulture in all its varied branches. I want to remedy this, as far as may be possible, for I am strongly persuaded that the interest in gardening is destroyed and lost in nine cases out of ten through misrepresented goods and bad management of good ones; and I am convinced that it is good gardening, and that alone, that will stimulate a languid interest in the work, and even induce a strong liking for it where none existed before.

But to return to my subject, when dry weather follows the seed sowing of annuals, it is a good plan to sprinkle the surface of the ground where the seed is sown in the morning or evening

with a water-pot having a fine rose, or with the "dewpot," but not to saturate it—a mere light sprinkle is enough to bring up the seeds.

III.—PERENNIAL FLOWERING HARDY PLANTS FOR GROUND.

The word perennial when applied to a plant implies a plant whose leaves generally speaking, perish annually, but whose roots and sometimes stems and even leaves survive for more than two years. A perennial, then, is a plant that lasts and flowers for several years. Under this term are included a number of species and varieties of all classes, characters, habits, and colours, suited for all classes of gardens, situations, and soils, and for those who have not time, or cannot attend to or do not care for the showy annuals and prefer to make one trouble of stocking the garden and yet wish to have a perpetual succession of good things in the garden there is nothing better suited than a good selection of hardy perennials. These indeed are especially suitable for the garden of the cottage and small villa whose occupants cannot or do not keep a professional gardener to get up stock for annual bedding, and for others who have not the means or cannot afford to buy plants annually for the summer decoration of the garden, yet wish to have a gay looking garden. **Perennials** are of two classes: The first class consists of the herbaceous perennials, which die quite down every autumn and spring up from the roots every spring, and includes some of the most beautiful and showy kinds of flowering plants as the **Lilies, Pæonies, Gladiolus, Iris, Amaryllis, Narcissus, Tulips, Lychnis,** etc. All such should have permanent mark-sticks placed firmly in the ground where the root is so that no damage can happen to the roots or bulbs when the borders are dug over before they show themselves. The other class includes such as retain some foliage above ground, as the **Carnation, Pink, Primulas, Hepatica, Gentianella, Sweet William,** etc. Mixtures of perennials nicely arranged according to their character and colour, which

should be diversified and contrasted and the height arranged so as to graduate from the centre or back, as the case may be, to the sides of the bed or border, forming as nearly as possible a neat embankment of foliage and flowers, are exceedingly pretty; but for effective show, beds of one genus well matched are no doubt best. In all cases the beds or borders in which perennials grow should once a year have a good dressing with either old decayed manure or horse-droppings swept up from the road with the sand in it and then dug in with a spade or a three-pronged fork, turning in the manure spade deep and digging carefully between all the roots, and reducing any that have become too large, and lifting and replanting others some of which may have grown too much above the soil, while some have become straggling; to this Carnations and Sweet Williams are especially liable. The ground should be dug over about *December*, and the border or bed left moderately rough for a month or two so that the air can pulverize the soil.

(a.)—Perennials for South Aspect.

ALSTRŒMERIA.—A very handsome species, with flowers resembling the Amaryllis tribe, of which there are many varieties well suited for small gardens and even beds of the different varieties. All are remarkably handsome in flower. The soil should be of a somewhat light and good nature and well drained. The roots may be planted in early autumn or spring, and protected from severe frost by some cocoa-nut refuse fibre. The best sorts to plant are **A. Chilense, V. psittacina,** and **A. Peruviana.** All may be propagated by offsets and by seed sown in pots in the spring and placed in heat.

AMARYLLIS.—Of this family there are several varieties which are especially suitable for a collection of perennials. They are fine autumn flowering bulbs with large heads of white and rose-coloured flowers, and among them may be especially named the **Guernsey Lily, A. crispa, A. Japonica,** and **A. belladonna,** or the Belladonna Lily. They should be planted in a warm, dry border, and should be slightly protected

in winter with some cocoa-nut refuse fibre laid over them till danger of frost is over. The bulbs should be planted six inches deep and covered with fine leaf mould and sand.

ANEMONE.—Of this genus there is a great variety which may be permanently planted as border plants in front of the border; some however are tall, but I will specify the height by figures when necessary.

The single **Anemone coronaria,** which means crown-flowered; **A. c. the Bride,** with a white flower; **A. stellata,** and **A. fulgens,** both single and double, are all remarkably fine hardy perennials for the border and beds, and may be had in almost all colours, including white, purple, and scarlet. Then there is the **A. Japonica** class, of which we have two beautiful hardy varieties, namely: **Honorine Jobert,** or **A. vitifolia,** with a most beautiful white flower, and another with rose coloured bloom; both autumn flowered, and tall growing, being 2½ feet high. All these may remain in the ground from year to year. The double-flowered **A. coronaria,** should be planted every *March*, and taken up as soon as the flowers and foliage die off, and the roots dried and stored away till planting time comes again. The soil for **A. Japonica** may be any good ordinary garden soil, but for the others maiden loam, leaf mould, and sand, equal parts, should be used, and good drainage. All anemones can be multiplied by division of the root as soon as the foliage dies off, and some by seed sown in the spring.

ANTHERICUM LILIAGO, or **ST. BERNARD'S LILY,** and **A. Liliastrum,** are two fine, hardy, rather tall growing perennials, with lily-like flowers, suitable for the centre of a bed or the back row of a border. Both are white flowered and bloom in summer. They should be treated in the same way as all hardy lilies; they may be propagated by division in the autumn.

AQUILEGIA GLANDULOSA, or **COLUMBINE.**—This variety has a beautiful blue and white flower. It is well worth a place in every garden, and is especially well suited for cottage gardens. Any good garden soil will do for it. It may be raised from seed or may be multiplied by divisions of the root in

autumn. There are other varieties of this family all more or less desirable for border cultivation.

CALANDRINIA UMBELLATA.—A dwarf, free flowering, hardy, evergreen perennial, with crimson blossoms fit for small beds and edgings, or the front row of borders. It requires good ordinary soil, and a moderately dry situation. It may be propagated by seed and division of the root.

CALLIRHOE INVOLUCRATA.—A fine showy, dwarf, hardy perennial, with large rosy purple flowers, well suited for a sunny place in the garden. It may be raised from seed.

CAMPANULA GARGANICA.—A beautiful procumbent hardy perennial, with light blue flowers, suitable for small beds for edging, or for the front row of the border. **C. grandis** a splendid, tall growing (3 feet), free flowering plant, throwing up several spikes, with large salver-shaped blue flowers forming a grand object at the back of the border. There is a white variety of this also. **C. Turbinata.**—Of this there are two varieties, one blue and the other white: both are of dwarf habit, and have large bell-shaped flowers, they are well suited for beds and the middle row in the mixed border. For other varieties, and some more dwarf sorts, see list of plants suitable for South, East and West aspects.

CARNATION, CLOVE PINK, and **PICOTEE.** — All of these varieties of the **Dianthus caryophyllus** are well known as most useful and desirable hardy perennial plants, and are great and deserved favourites of the amateur gardener. The carnation and picotee for the beauty of the markings in the flower, and the clove for its fragrance, which is almost incomparable. The cultivation of these is comparatively easy, for they will grow in almost any kind of soil and situation. But to achieve marked success in growing them, some more than the usual ordinary amateur routine must be adopted and followed. To do this, as far as ground culture is concerned, they should be grown in beds by themselves, and there is no class of hardy plants that more justly deserves or that will better repay the trouble or make up the deficiency of a more extended number of species for the border or bed devoted to them. The ground should be

of a good tender sandy loam and well drained. To the common soil of the garden should be added old manure and some sand if necessary, and all should be well worked up during *September*, for autumn planting, and in *February* for spring planting, and left rough until the time when the plants are about to be planted, which should be in *October*, which indeed is the best time, or in *March*. The next best plan is to work over the surface, five or six inches deep with a heavy hoe, making it fine, and then with a coarse, nail-toothed rake to draw off the coarse stuff and stones, and then plant the plants, which should be strong well rooted layers or pipings, which have been struck in *July* or *August* previous. Set the plants into the soil with a garden trowel at one foot apart. This is quite close enough. If the plants are planted in the autumn and severe frost ensues after, it would be well to lay over the surface of the ground a top-dressing of cocoa-nut refuse fibre, old tan, or leaf mould about two or three inches thick, as a protection for the roots. If planted in the spring a surface dressing with horse droppings from the road with the sand in it, will protect the roots, and also afford additional nourishment to the plants; and thus an abundance of finer flowers will result. To keep up a succession of good healthy and strong plants, it is necessary either to layer some every summer, or else to make pipings, for old carnation plants get very straggling and unsightly, and also deteriorate. I do not name sorts here, for there are so many that are equally good that it would entail the necessity of making a long list that would be quite beyond the pretensions of so small a work as this. The culture, however, is the same.

CROCUS.—Of this class of border plant we have a great number of varieties, and all beautiful in colour, of hardy constitution, and remarkably well adapted for small beds, edgings to beds, clumps in front of borders, and for clumps on lawns, where they form exceedingly pretty and conspicuous objects in early spring. They will make their way up through the grass sward in patches of the size of a dinner plate, and when in flower as thick as the flowers can stand, these patches, with their decided colours present an effect which is most charming, and which it

would be difficult to match. The bulbs should be planted in patches, each patch being of one colour, four inches deep in *October*, the hole being filled up with sand and loam after the bulbs are planted and the sward laid down again. Crocuses should be planted not more than three inches apart whether in in clumps or otherwise, and should be left undisturbed for many years. All are aware there are yellow, blue, white and striped crocuses, and also an autumnal variety called **C. sativus**. cultivated in England for the sake of the saffron that is obtained from them. This variety is well worth growing, the culture is the same as for the spring flowering sorts.

CHRYSANTHEMUM.— Of this family there are several classes, as the large-flowered **Chinese**, of which there are several sub-classes, whose members for the most part yield grand blooms of exquisite form and colour. Then there is the **Pompon** section, having small and Ranunculus-like blooms, whose members are remarkably well suited for small gardens on account of their being dwarf, compact, and robust in habit, flowering freely. Another class is the **Japanese** chrysanthemum, the flowers of which are large, of every conceivable shade of colour, and more peculiar in form than either of the others. These and the Chinese varieties should be planted against walls and fences, but the pompons make neat and compact isolated objects in the border. Each class, however, may be utilized for beds in a sheltered spot by pegging them down while the growth is young and laying the branches out so as to cover the bed. Thus the chrysanthemum can be made a most useful floral ornament for all classes of gardens. The soil should be good, tender loam, enriched with old decayed manure and sand. Abundance of water is necessary for them while growing and coming into flower, and good drainage is needful for them, especially through the winter. The chrysanthemum can be multiplied freely by cuttings in *March*, and all through the summer, and also by rooted offsets and by layers in summer.

DAISIES.—Plants of this genus are great favourites among all classes for garden purposes, especially for edgings to beds and walks, for which they are so well adapted, whether in a *South*

East, *West*, or *North* aspect, nor does it much matter what the soil is except extremes of wet, cold, clay, and very hot and dry poor soils, which do not answer well for the daisy. The best varieties are **Rubens**, red ; **Snowflake**, white ; **Eliza**, shaded pink ; and the singular and curious **Hen-and-chickens** daisy, pink and crimson. These should be had by everyone who has a square rod of ground. The daisy should be planted in small clumps or single crowns, in firm ground, in *March* or else in *June*, so as to get well established before winter.

DELPHINIUM.—The family is also called **Perennial Larkspur**, and is composed of many grand and beautiful hardy border plants, well suited for small gardens, and for small and large beds or lawns, **D. Chinense**, **D. nudicaule**, **D. belladonna**, **D. Barlowii**, and **D. Royalty** being well adapted for this purpose. **D. nudicaule** has scarlet blooms ; the others are of various shades of blue. The dwarf varieties of the above are well suited for small gardens as border plants, and such as **D. formosum**, **D. ranunculifolium**, **D. Wheeleri**, and **D. grandiflorum** are fit for wide borders or roomy beds. **D. formosum** is a fine sort, with dark blue flowers having a white eye. The old **Bee Larkspur**, or **Delphinium Alpinum**, a tall-growing variety, with dark blue blossoms, is a hardy sort, of fine character and habit, forming a fine feature in the border. **D. azureum**, a light blue variety, would be a match for **D. Alpina** ; and **D. Cashmerianum**, with flowers of a beautiful pale blue, is a most beautiful, free-flowering, dwarf variety, suitable for isolated clumps in a good border. There are a great many more, but the limits of this work will not admit of descriptions of them. The treatment of all varieties of the delphinium is the same. One thing in connection with their cultivation demands more particular notice, that is, the ground should be kept clear of slugs, which are very fond of the roots, and will destroy them by eating them in winter under ground. A light sandy soil suits the family best. They may be raised from seed, when it can be had, and also propagated by offsets as soon as early autumn comes.

DIANTHUS.—From this family may be selected plants

adapted for every kind of floral decoration, as I have already intimated in that part of this work which refers more especially to window gardening. Selections may also be made from the genus for edging of beds, walks, and for rock-work, and as subjects for the most showy beds and border plants. Take, for instance, the old-fashioned **Sweet William (D. barbatus)**, of which now we have perfect gems, as the auricula-edged '**Perfection**' and **Mr. Hunt's** varieties, which exhibit an endless and charming diversity of colour. Then there is the **D Sinensis**, or **Indian Pink**, the variety of whose flowers, when grown in masses in any bed, it is quite impossible to describe. This can scarcely be called a perennial, yet plants will continue for a year or two in some soils. At all events the Indian pink should certainly have a small bed especially devoted to it in every garden. The seed of this class should be sown in *April*, and it will flower the same year. The superb **Heddewigii flore pleno**, the **Mule Pink, D. superbus,** and **D. latifolius splendens** are splendid plants for beds or the front of borders. Then there is the procumbent **D. deltoides**, which is a gem for rockeries and edgings, old logs, etc. The seed of all the hardy perennial sorts, as the Sweet William, D. superbus, etc., should be sown in *April* in seed beds, and pricked out into other beds as soon as the seedlings are large enough to handle, at six inches apart, and finally planted where they are to flower. They may also be multiplied by division in autumn.

DIELYTRA.—**D. eximia** and **D. spectabilis** are two handsome, hardy perennials for a good dry south border. The foliage and flowers and disposition of the flowers are most graceful and exquisite, and they should be found in every garden. They may be grown in any good ordinary light soil. They flower early and die down to the ground in autumn, so that a mark-stick is necessary to show where the tender, fleshy roots are. They may be multiplied by crown shoots, and by cuttings in spring and summer from the side shoots placed in pots of sandy peat.

ERYTHRINA. — **E. cristagalli**, or **Coral Plant**, and **E. herbacea** are two hardy plants suitable for a dry sheltered

border, producing flowers of a rich blood red, resembling the flowers of the Clianthus. These plants will do well nailed on a warm wall. They should be treated the same as fuchsias in winter in cold counties, that is, cut down and the roots covered in winter with some ferns, cocoa-nut refuse fibre, or old tan. They may be propagated by crown cuttings in spring, and also by seed sown in a brisk heat in *March*. Soil, rough peat and maiden loam.

ERYTHRONIUM.—This plant is generally called **Dogs-tooth Violet,** but why it is called 'violet' is a mystery, for it is of the lily order, and much like some cyclamens in the character of the flower. The term '**dogstooth**' clearly refers to the shape of the little tooth-like bulbs of some sorts. They are very early flowering plants, hardy, handsome, and dwarf, and grow best in a shady place. Some new varieties have been introduced from *America*, one of which, **E. Americanum**, has yellow flowers, and another, **E. grandiflorum**, a tall-growing plant, has white flowers. All are choice plants for the amateur's garden. Soil, sandy loam. Plant the bulbs in autumn, and let them remain for years undisturbed.

FUNKIA.—Of this family there are many noble and handsome foliaged varieties, with lily-like flowers, varying in colour from white to blue. They are desirable as border plants when room can be allowed them.

GENTIANA or **GENTIAN.**—Of this family we have numerous varieties, well-known for the handsome, blue flowers that they produce in spring, **G. verna** and **G. acaulis** being the most popular. These are very dwarf, free-flowering, hardy plants, fit for all situations and soils, and are suitable for edgings, dwarf beds, and shady sides of rockwork. The plants should be permanently planted where they are to remain for many years, for they do not like frequent moving. The tribe may be propagated by division in early autumn, and some by seed. There are several other varieties, some of which grow as much as one foot high, as **G. Andrewsi, G. asclepiadea,** and **G. gelida,** all blue-flowered.

GEUM COCCINEUM.—Of this plant there are double and

single varieties, but I prefer the single variety, as, in my opinion, it is more showy. Both are splendid border plants two feet high, growing well in any soil and quite hardy. Plants raised from seed sown in *April* will flower the following year through the summer months.

G. montanum and **G. reptans** are dwarf varieties, fit for rockeries, bearing yellow flowers. The latter is suitable for edgings as well.

GLADIOLUS.—Of this extensive family there are many species and endless varieties, all forming first-class hardy border and bedding perennials. The splendid hybrids of **Gandavensis** have no equal for diversity of colour and grandeur of form, and it is simply wonderful how it is that there is not a small or great collection of these to be found in one garden among five hundred. Then there is the grand old **G. Brenchleyensis,** with its tremendous scarlet spikes of flowers, and **G. blandus,** with its delicate flesh-coloured and spotted flowers, and **G. Colvilli albus,** with magnificent white flower spikes, and a number of equally good kinds, all well suited for every class of garden, whether large or small. They may be grown in and are well suited for bold clumps of three, six, or twelve in a circle in the border, and for isolated beds of fifty or even five hundred. I am fully convinced that it is from a want of opportunity of seeing what is the effect of a good collection of five hundred plants in one group that so few of this noble autumn flower are grown by amateurs. The soil should be sandy, rich, and deep. The bulbs should be planted from *January* till *March*; plant from *four to six inches* deep. The bulbs may remain in the ground from year to year, or they may be taken up as soon as the stems die off. They may be propagated by offsets in late autumn. If left in the ground the soil should be covered in winter with five or six inches of old manure.

HARPALIUM RIGIDUM.—A tall-growing, hardy perennial, fit for broad borders at the back, producing for a long time in the autumn an abundance of aster-like, golden, yellow flowers, with black centre; a noble species, and well worth a

place in every good-sized garden. It will grow in any good common soil, and may be propagated by division in autumn or early spring.

HELLEBORUS or '**CHRISTMAS ROSE.**'—There are a great many varieties of this early-flowering plant, which have flowers of dark red, pale rose, yellow, white, and grey, with spots, all of them being remarkably handsome. The chief favourite is **H. niger**, a dwarf, free-flowering variety, with clear white flowers, which should be grown by everyone who wishes for flowers in winter. The hellebores are hardy and will grow well in any good ordinary garden soil; they may be propagated by division of the root in early autumn.

HEMEROCALLIS or '**DAY LILY.**'— A hardy, lily-like, border perennial, with yellow flowers, of which we have six or seven highly-esteemed varieties, **H. disticha, H. flore pleno, H. flava, H. fulva,** and **H. variegata** being among the best. The flowers are exceedingly fine for cutting for vases, for table decoration, the successional buds developing in water. As they are rather tall-growing plants and the foliage abundant and long, plenty of room should be allowed them to develop themselves. Any good mellow and sandy soil will suit them. Plant them in autumn or early spring. They may be propagated by division in autumn.

HEPATICA, called **Liverwort,** from the shape of the leaf. Of this desirable tribe for edgings and for front clumps to borders, remarkable both for hardiness and earliness of flower, we have several sorts, all with a constitution capable of bearing more than ordinary treatment. Neither soil nor situation much affects them, so that it is quite surprising why we see them so seldom in gardens. The whole tribe are well adapted for small gardens, beds being formed of the three colours, namely, **H. angulosa,** single blue; **H. triloba,** white; and **H. rubra,** red; using, say the white for the border, then a belt of red and blue for the interior, or arranging them in any way which may suggest itself. The hepatica should be planted where it is intended to remain for many years, when it will increase in size and effect.

HESPERIS MATRONALIS.—Of this plant, better known as **ROCKET**, the varieties **H. m. albo-plena** and **H. m. purpureo-plena**, the former having double white flowers, and the latter double purple blossoms, are hardy border plants of dwarf habit and abundant flower, much like double stocks in appearance, but of the most exquisite fragrance in the evening when in flower. These should certainly be possessed by every one who has a yard of ground. They like good ordinary half-light garden soil, and a warm situation. They may be propagated by division of the root in autumn, as soon as new crowns form themselves.

HOLLYHOCK.—Of this tribe I need not say much, or indeed more than that no good moderate sized garden should be without its double prize hollyhocks. They are, however, only adapted for the back row of a broad border. The ground should be good, and of a slightly adhesive nature. They should be planted out early in the autumn, and not too close together—three feet apart is enough. They may be raised from seed sown in *April*, and may also be propagated by offset crowns in autumn.

IBERIS SEMPERVIRENS.—The perennial **Candytuft** is remarkable for its abundance of dazzling white flowers. **I. Gibraltarica** has a white flower tinged with red, and **I. corifolia** is a dwarf plant with white flowers. All are fine old border plants.

IRIS.—Of this family we have endless species and varieties, well suited for either beds or borders, and for these it is best to have recourse to the tuberous rooted section of which the old, but fine flowered **I. Susiana**, and the numerous and gorgeous varieties of **I. Kæmpferi**, or the **Japan Iris**, the glorious diverse colours of whose blooms it would be futile to attempt to describe, varying as they do in every imaginable shade from pure white to blue-black; but just by way of giving some little idea of the **Iris** I may attempt a description of the well known **I. Susiana.** This attains a height of two feet, and has large and noble flowers, of a greyish blue, richly netted with brown lines. These hardy tuberous-rooted Irises are truly

magnificent, and should be in every garden, by reason of the diversity of the showy colours of their flowers, and their adaptation to every class of garden, and, I may say, every variety of situation and even soil. It would be a difficult thing to find in all the floral world a more gorgeous and magnificent class of hardy border or bedding plants for summer decoration. I can imagine the effect of a plot of ground entirely devoted to the **Iris** and **Gladiolus** and **Lilies** upon the sense of sight of any one who never saw such a thing, and when we consider them in all the points in which they are specially noticeable, namely, colour, grandeur of form, protracted season of flowering, it is certain that no one need have recourse to more than these for a whole summer of the grandest display. The **Iris** prefers a moderately good adhesive soil, with a large proportion of sand in it, and a little shade. The plants should be planted in early autumn, and may remain year by year, where they are, giving them an annual top-dressing with manure, after digging between them with a digging fork. Propagation by offsets in autumn.

LILIUM.—Of this family, select for small gardens, **L. Thunbergianum,** of which there are so many splendid dwarf varieties fit for small beds and small front gardens, the large flowers that it produces being golden yellow, red, and orange. Then there is **L. longiflorum album,** a splendid dwarf species, with long, pure white flowers, and **L. auratum,** the most glorious of all lilies, growing a foot taller than **L. longiflorum,** which is two and a-half feet high. Then there is **L. speciosum,** commonly called **L. lancifolium,** with its varieties, **L. s. album, L. s. punctatum, L. s. roseum, L. s. rubrum,** and **L. tenuifolium,** a dwarf species with fiery scarlet flowers. These are all fit for small gardens. The old **Tiger Lily (L. tigrinum), the Turk's Cap Lily, the Orange Lily,** and the common **White Lily (L. candidum),** are better adapted for the borders of larger gardens, and should be planted at the back of the borders in the next line to hollyhocks. The soil for successful lily culture should consist of good alluvial or open loam, peat or *leaf mould,* and sand in about equal parts, and there should

be free drainage for the bed or border. It is useless to plant lilies in cold, heavy soils, and in cold, shady aspects, or in too dry and poor soils. Some little pains must be taken when first planted to make a good suitable foundation for them. If planted in isolated plants in borders as they mostly are, the original soil, if not suitable, should be taken out a spade deep, for at least two feet in diameter, and the deficiency made up with the compost named above, and the bulbs then planted five or six inches deep. They should be planted in the autumn, and as soon as the bulbs come to hand, for lily bulbs will not keep long out of ground; for this reason it is quite a speculation to go far abroad for the bulbs. France or Holland is far enough, but I advise all purchasers to get their lily bulbs from home growers. The lily may be propagated by offsets in the autumn.

LINUM FLAVUM or **PERENNIAL YELLOW FLAX.**—A yellow flowered hardy flax plant, forming a dwarf bush a foot in height, covered for weeks in summer with flowers. It is a fine border plant, well suited for sunny places in a small garden, and will grow in almost any good common soil. It may be raised from seed.

LYCHNIS CHALCEDONICA.—Of this there are single and double flowered varieties, both of the most vivid fiery scarlet colour, possessed of a peculiar reflective power in the colour, which under some conditions of light seems to give out more of it than at other times, hence they were called by cottagers "scarlet lightning." The double variety is a scarce plant now, although very desirable for the border. It reaches a height of two feet. **L. fulgens**, with showy scarlet flowers, is one of the best dwarf perennials we have, being well suited either for a small bed or the front row in the border. The flowers are of immense size. **L. viscaria plena** is a splendid free flowering double variety, with showy rosy red flowers, and forms a very superb plant. **L. Alpina** is a dwarf variety, and well suited for edging and rockwork, and for banks. Any good ordinary light soil will suit the lychnis, but **L. fulgens** should be cared for more than the others, by adding some leaf mould and sand, etc., to the mould in which it grows.

MYOSOTIS, or Forget-me-not.—Of this favourite family we have three or four varieties, especially deserving a place in every garden. **M. dissitiflora,** the favourite, is an early flowerer, and should always find a front place in the border. Then there is **M. elegantissima,** a silver-edged foliage plant, a most beautiful variety, and **M. Azorica,** a fine old and large flowered forget-me-not, and last, but not least, **M. semperflorens,** which means "ever flowering." This variety should have a moist and shady spot. See "Plants under North Aspect," p. 58. The soil for forget-me-nots may be of any good ordinary kind. They may all be multiplied by seed and divisions of the root.

NARCISSUS.—In this family, I need hardly say, we have plants that are most popular and well suited for a variety of purposes, and all classes of soils and situations; indeed, it would be difficult to find a class of hardy bulbous plants that will endure hardship as readily as many of the Narcissus tribe, and therefore so well suited for those who like to see early flowers without much trouble for culture, and under every possible apparent disadvantage. In fact, most of the members of this family seem to delight in what will kill outright all others, so that, taking them as a whole, no one can err in planting the narcissus wherever they choose, upon banks, in borders, in orchards, under trees, where no other flower will grow, except the snowdrop, on lawns and beside drives, whether on sunny sides or shady it makes no difference, nor does it matter whether or not the ground is ever moved by digging after they are once planted. They flourish exceedingly in grass meadows, orchards, and beside drives, which have not been dug for twenty years, and, perhaps, more than that. In fact, the narcissus prefers solid ground, and dislikes to be disturbed or nursed. Very interesting objects may be made on lawns, in parks, and cemeteries, and besides drives and walks through grass, by planting a back row of narcissus or jonquils, and a double row in front with snowdrops, or the Crimean variety, **Galanthus nivalis,** which flowers later than the common snowdrop, and will flower with the narcissus. Circular clumps

of any desirable size can be made with snowdrop and narcissus on lawns, cemeteries, parks, etc. The narcissus should be planted six inches deep in early autumn. I do not name sorts as it makes no difference what sort is planted, and choice can always be made from descriptive catalogues, which can be had for nothing.

ŒNOTHERA, or **EVENING PRIMROSE.** — Of this family the species known as **Œ. acaulis**, **Œ. macrocarpa**, and **Œ. taraxacifolia** are all good dwarf-growing and free-flowering sorts, fit for dwarf beds, edgings, and rockwork. The first and last named bear large white flowers, but **Œ. macrocarpa** produces rich and large yellow blossoms. These all open in the evening and make an attractive display as the sun goes down. They are hardy and will do well in any good ordinary soil.

PÆONIA, or **PÆONY.**—Of this noble family we have two characters, *i.e.*, the **Herbaceous** class and the shrubby class or **Tree-pæonies**, *i.e.*, those which do not die down every season. The herbaceous pæony is very popular in regard to some varieties, but as an entire section very little is really known of them. This is really astonishing to me when we consider the ease with which they can be grown, their adaptation to any class of soil except very cold and heavy wet ground, and their beauty as single plants in the compound border, or when grouped in beds or placed in lines, and their hardy constitution and perpetual duration, which makes them very desirable for those who do not care or cannot afford to be laying out money every year in succession for less durable sorts of plants. In the pæonies is found a class of permanent hardy perennial plants which should have a place in every garden, small or great, and selections may be made which, for grandeur of flower of every shade of colour, from clear white to violet red and purple, has no compeer—no, not even in the rose, to which many of the pæonies are equal in point of fragrance as well as colour; and although it would be difficult to supplant the rose by any class of plants, yet the pæony has immense advantages of its own, for where the rose would fail to do well the pæony will for ever

flourish. Let those who wish for a bold and lasting garden ornament make selections from some grower's descriptive catalogue in the autumn, and then plant the tubers in beds or in the border; and here, to those who have sufficient room, I may suggest that a whole border might well be devoted to a good varied selection, which, for the time that the plants are in bloom, would eclipse every other species. Above all plant **tenuifolia**, whose bold, blood-red, double flower and elegant, deeply-divided foliage combine to render it a most beautiful object. Having made choice of varieties early in autumn, prepare the ground, if poor, by manuring, or by adding a good portion of sand—pit or river sand if it is heavy. Then dig it deep, a full spade deep, and when all is ready plant the plants with the spade, letting the tuberous roots down their full length, and so that the crowns are three or four inches below the surface of the soil, and press the earth somewhat firmly about them, remembering that the pæonies should remain for many successive years in the same place, and that each plant will soon develop into a large size. Do not plant closer than two feet apart for a bed. Give one or two good soakings to the plants as they are coming into flower with some strong liquid manure, and as soon as the stems die down or turn yellow, cut them off close to the ground, fork up the surface five or six inches deep, and then lay three or four inches of light manure over the ground, allowing it to remain so till *March*, when the manure may be forked in just under the surface. The pæony may be propagated by division of the root. It is in flower from *May* to *July*.

PAPAVER.—Of the perennial poppy there are several varieties, as **P. orientale** and **P. bracteatum**, which are very much alike, both having deep crimson flowers blotched with black at the base of the petals, and both growing from three to four feet high and requiring a good deal of room, being, indeed, most fit for broad borders. Besides these there is **P. nudicaule**, a yellow-flowered variety, and **P. nudicaule album**, a white-flowered variety. The last-named plants are handsome, dwarf, and free-flowering sorts, and are worthy of a place in every

garden. They are fine border plants of easy culture, and may be grown in almost any good soil. They should be planted in *October* or *March*. They may be propagated by seed and by division; flower from *May* till *August*.

PENTSTEMON.—Of this family we have a great many varieties of every shade of colour and character, all of which are not only free in flowering, but of a long continuous flowering habit, which makes them very desirable plants for either small or large gardens, as border or bedding plants of easy culture and of comparatively hardy constitution. They require, however, good but moderately light, sandy soil and free drainage for the bed or border. The most suitable for small gardens are **P. confertum**, a dwarf, with blue flowers; **P. glabrum**, a prostrate variety, with purple or dark blue flowers; **P. procerum**, a dwarf and free-flowering variety, of evergreen habit with purple blossoms, a beautiful plant for small bed or front border; **P. barbatum**, a free-flowering variety, with fine scarlet flowers; **P. Cobœa**, not so tall, with large purple and white flowers; and **P. gentianoides**, whose handsome varieties should be grown in good sized beds or on a broad border. Good friable tender sandy soil suits the pentstemon, and it requires free subsoil drainage. It may be multiplied by cuttings through the summer months, and by seed sown in seed-pans in *March* or *April*.

PHLOX.—In this family we have the most useful as well as the most beautiful hardy perennial flowering plants it is possible for anyone to possess. They are suitable for every class of amateur as well as of professionals who are desirous of making a good show, and one of a permanent character. Neither soil nor situation materially affects them, although the best effects will result from growing them in an open spot and in good, free garden soils of a tender and sandy nature. First, there are the very dwarf varieties which are so well suited for edgings to beds, for small beds, and for rockeries in small villa gardens. For this purpose select **P. verna**, which flowers early and bears a red flower; **P. stolonifera**, much like P. verna; **P. nivalis**, very dwarf, with snow-white flowers, a gem for

edgings; **P. setacea**, early, bright rose flowers and dwarf. Besides these there are two sections deserving to be named, of erect habit, namely, the "**decussata**" section, consisting of dwarf and free-flowering, erect, pyramidal plants, blossoming in autumn, and almost unique for beds and lines and borders. The other is the "**suffruticosa**" section, which comprises several handsome plants, but much taller in growth, and not really fit for small gardens like the varieties first named. Each of these last two sections contains a multitude of varieties, of which I may find room to name **P. coccinea, Gladstone**, red; **Moonlight**, light rose; **Mons. Marin Saison**, magenta; **Thomas Chisholm**, white; and **Virgo Maria**, white. These are dwarf in habit and bear large trusses of flowers. There are a great number besides in this dwarf, late-flowering **decussata** section of equal merit, of which selections may be made from descriptive catalogues to suit all fancies. Selections of plants of like merit, except of taller habit, may be made from the **suffruticosa**, or early-flowering section, as **P. alba magna**, white; **Harrison's Seedling**, white, with pink centre; **Mrs. Taylor**, white; **Mrs. Hunter**, white, with rose eye; **Mrs. Miller**, dark purple; **Allan McLean**, rosy purple; **The Shah**, rosy purple; **John Alexander**, scarlet and very fine; **Victoria Cross**, deep purple rose and striped; with many others too numerous to name and describe here, but all well suited for broad borders and large beds. When anyone is desirous of making a choice plantation of phloxes, the best way is to send for some good grower's catalogue and then make selections agreeable to fancy and to suit the particular purpose and places they are wanted to fill, whether for edgings of beds, small beds, or lines and broad borders, for each of which suitable subjects should be of course selected from each section. The best time to plant phloxes, *i.e.*, perennial phloxes, is in *October*. Then the plants will commence to establish themselves at once and will bloom better in the following summer. The prices of phloxes vary considerably according to sorts and the sizes of the plants. Small plants will flower well, but good two-year-old plants

should be selected if a perfect bloom is wanted. The roots should be well let into the ground, the crowns being an inch or two under the surface, and afterwards an inch or two of mulching or top dressing should be laid over the surface for the winter, and in every succeeding *November* a good top dressing with some manure should be laid over the surface of the bed and around each border plant. The whole may be propagated by division of the roots in autumn, and by cuttings of the young side shoots on the stems when two or three inches long, inserted in pots or pans filled with fine, sandy peat, or maiden loam, leaf mould, and sand, equal parts, watered, and placed in a frame or under a hand-light.

PINK.—These are well known as good border and bedding, hardy perennials, well suited for all classes of gardens, especially those attached to cottages and small villa residences. The old sweet white and pink flowered sorts are well known, but few are aware of the existence of some of the handsome, laced, show varieties. A few of these should be possessed by all amateur gardeners. Any good, ordinary, mellow and free soil will do for them, and as front or second row border plants, and for beds, they have no equals among hardy plants. They should be planted in the early autumn—*October*, and treated like the carnation, picotee, etc. See "Carnation, etc.," page 25.

POLYANTHUS.—Of the polyanthus there are a great number of varieties, many being curious novelties, and some of great beauty and valuable quality, as the plants of the handsome "gold-laced" variety, which, when perfect, are both rich in colour and unique in form. Then there are the primula-polyanthuses, forming a superb section, which has arisen out of a cross between the polyanthus and the primula. The most curious and novel varieties of this popular plant are **Jack-in-the-green,** whose flowers are enshrouded in a singular mantle or green; **Hose-in-Hose,** the blooms of both being yellow and rosy brown. There are others which are double-hosed and double-black, as **King Theodore**; some that are single-black, as **White Queen**!!! Lastly, there are the prize gold-laced varieties, of which **Cheshire Favourite, Lancer, George the**

Fourth, and **Duke of Wellington** may be considered the best. The polyanthus prefers a little shade and a good mellow, tender, and slightly-adhesive soil. All may be multiplied by seed and by offsets soon after flowering, and may be grown in borders and beds. They should be planted and replanted as they get above two years old, in the early autumn, about *August*, and not later than *September*.

POTENTILLA. — A very hardy and beautiful flowering border, bed, and rock plant, of which there are many varieties, handsome in foliage, of dwarf habit—most of them being trailing plants—and generally with crimson, scarlet, or yellow flowers, either double or single. They are well suited for banks and borders. The most noteworthy varieties are **P. atrosanguinea,** dark blood-red ; **P. purpurea, Star of the North, Louis van Houtte,** all crimson varieties ; and **P. versicolor, stratiflora,** and **Goldfinch,** all striped varieties. These are well worth a place in every garden. Soil—any good ordinary ground will suit them. They may be propagated by division and by seed.

PRIMULA.—Of this tribe there are many most useful and beautiful varieties fit for the border. The double-lilac, double-purple, double-white, yellow, and straw-coloured, and the double-blood—a most superb and scarce primrose ; besides a great many more single species and varieties of great beauty, which are valuable as hardy border and bedding sorts. The primula is pre-eminently the amateur's plant for small gardens from the fact of its being compact, handsome, early, and hardy, and not so nice as some other plants as to soil. The best soil for them is good, common, garden earth of a moderately open texture. The section **P. cortusoides** and its varieties are beautiful, and includes some singularly-shaped flowering sorts, which should find their way into every garden. A moderately dry border should be assigned to these, not that they are tender, but as they die quite down in winter and become dormant a dry bottom for them is neccessary. When they die off in late autumn do not be alarmed. Lay a little leaf mould or cocoa-nut refuse fibre or old tan over them, and by-and-by they will sprout again.

This section is most useful for taking up with an entire ball of earth about the roots and placing in pots, for the adornment of early windows and conservatories. The single varieties may be multiplied by seed, and the double ones by division of the roots in *August*.

PYRETHRUM.—This genus includes many most beautiful double-flowered, aster-like, or chrysanthemum-like varieties, embracing almost every shade of colour from pure white to deep purple crimson, and of quality equal to the best double aster or chrysanthemum. All of them are hardy and form fine border or bedding plants. Let anyone who is about to make a bed of them send to *Mr. Cannell, of Swanley, Kent*, or *Mr. Thomas Ware, of Tottenham, Middlesex*, or any such good growers, and get descriptive catalogues of them, and then make a selection. They flower early in summer and continue on throughout the season. The soil should be of a good open texture, and there should be free drainage for the roots in winter. If the ground is too adhesive, dig in plenty of leaf mould, peat, and sand. The plants may remain many years undisturbed. They may be raised from seed and propagated by division in spring.

SAXIFRAGE.— Of this family we may choose such as **S. longifolia, S. Wallacei,** and **S. granulata** for dry borders; and **S. umbrosa,** otherwise called "London Pride," **S. geum crenata,** and **S. g. dentata** for edgings, and **S. Burseriana** and **S. hypnoides** for the rockery. The three first-named are really good and splendid, erect flowering plants, growing about a foot high, and bearing an abundance of white flowers in *May* and *June*. They should be placed in a dry border, in moderately light soil. The sorts suitable for the rockery should have a little shade. The edging sorts may be in shade or otherwise. All may be propagated by division of the root. **S. granulata** has little bulbs very much like wheat kernels, and may be multiplied by these bulbs as soon as the foliage dies down. They must be carefully inserted in light, close soil about an inch under the surface. They thrive best if not disturbed for many years after they are once planted.

SNOWDROP.—This needs no description, and therefore I

have merely to say that snowdrops may be associated in every way with the narcissus and crocus, and planted and treated and utilized in precisely the same way and for the same purposes. Like the crocus, the snowdrop should be planted early and not be disturbed for years after.

TRITOMA.— This family has some noble and very conspicuous members for the border, of which the plant familiarly called the **"Red-hot poker" plant** is one. **T. uvaria nobilis** is a grand plant, and is generally known now. The tritomas are, however, strong and tall-growing plants, and require a good deal of room. They are stately plants for the broad border or make a brilliant-looking bed on a large lawn. The broad, flag-like foliage which grows long requires a good deal of room to develop, and they throw up a tall flower scape, which is surmounted by a glowing red and yellow, short, close spike of flower, which may indeed be compared to the end of a large, red-hot poker, whence its common name. The soil may be of any good, ordinary kind, but it should be sandy. The bulbs should be planted in *November* or *December* in the first instance. They may remain undisturbed for as many years after planting as you please. They may be propagated by offsets and by seed.

VERONICA or **SPEEDWELL.**—The following sorts will be found to suit small gardens :—**V. prostrata,** a close-growing sort for edgings, with deep-blue flowers ; **V. rupestris,** a dwarf-growing, blue-flowered variety, suitable for small beds and edgings ; **V. tenuifolia,** dwarf and fine leaved ; **V. saxatilis, V. incana,** a close-growing, hoary-leaved, dwarf plant, with purple flowers, well suited for small beds and elevated edgings to large beds, walks, etc. ; and **V. longifolia,** a hardy perennial, bearing an enormous spike of most beautiful, deep blue, sub-sessile flowers, which should have a place in every garden for its handsome and excellent character, which places it above all others of the family. There are a great many more suitable for borders, edgings, etc., but these will form varieties enough for most small gardens. They are not nice as to soil, and all may be multiplied by division, and by seed and cuttings.

Most of the perennials named above may be grown in *Eastern* and *Western* aspects. The difference will be in the character of some and the time of flowering, which will be caused by the plants getting less direct sunlight during the day. The character of many will be somewhat affected, and they will be less robust and more foliaceous and less floriferous, which is caused on account of diffused sunlight instead of double the time of direct sunlight which the plants get in the South Aspect. The terms "*East*" and "*West*" aspects are used in reference to beds and borders which lie facing these quarters, and which cannot get the direct rays of the sun as a garden does which lies open to the south all day long. This, I think, is a sufficient explanation.

(b) PLANTS FOR NORTH ASPECT.

Under the term "North Aspect" are included all gardens and borders which face the north, and in which no direct sunlight can fall on the plants.

ANEMONE, WOOD.—Under this general name are included **A. nemorosa, A. sylvestris** or Snowdrop Anemone, **A. rivularis**, and the American Wood Anemone, **A. Americana.** There are many varieties of these, all of which will do well in shady beds and borders. The soil should be sandy and fairly drained, but not dry.

ARUM.—Of this family there are many, some of which are very curious, as **A. crinitum,** having an enormous flower much like a pig's ear in shape and appearance; **A. maculatum,** with spotted leaves; **A. dracunculus,** with a curiously spotted and veined stem and handsome leaf: and many more well worth growing in a shady border. The soil should be sandy, common soil.

ASTER, or **MICHAELMAS DAISY.**—These are hardy and will do well in the north aspect, and may be utilised as back-ground border plants for other things. They are very pretty as late-flowering plants, yielding an abundance of blossoms, and well suited for places where few things else will do

well. The majority of them are tall-growing, although some, as **A. alpinus**, are dwarf. All may be multiplied by division in spring.

AURICULA.— Of this splendid family choice should be made from the "Alpine" section, from which may be selected a large variety of the most splendid hardy border plants to be found in the floral world. A good selection indeed of these plants can be made, containing varieties enough to fill a good-sized cottage garden, and a border containing a thousand seedling auriculas, when in flower, is, according to my experience, the most beautiful thing an amateur gardener can possess, there being probably no two plants among the whole number with flowers exactly alike. Most amateurs ruin their auriculas by over-indulgence and coddling them. The flowers of the auricula will not bear the sun; they melt away before it; therefore a northern aspect is best for them. The bed or border should be well raised above the common level of the ground, and must be well drained. The soil should be a compost of moderately coarse texture made with maiden loam, one part, leaf mould, two parts, and sand, one part, well mixed together. They may be kept all the winter as permanent plants in the ground if it be thoroughly drained. The auricula can be propagated by offsets in *August*, and by seed sown in seed-pans in *March* and placed in a cold frame. It will be two years before the seedlings become established as good flowering plants. They may remain in the seed pans till the following spring, when they may be planted out 6 inches apart in fine soil.

CYCLAMEN.—For a description of those which will do in the open ground in a north aspect, see "Plants suitable for East and West Aspects," page 48.

FERNS.—Of this most beautiful and useful family there are a number of hardy sorts which, if grown well, form some of the most beautiful and interesting garden objects it is possible for an amateur to possess, whether in town or country; and one of the best features of this lovely foliaceous tribe is that every member of it, without exception, will do in, nay, even prefer, the shade to exposure to the direct rays of the sun, which soon

destroys that beautiful tint of green that all ferns are capable of assuming in diffused light. Here, then, we have a tribe of plants with characteristics suitable for a number of amateurs who are so situated as not to be able to grow flowering plants, for ferns will actually flourish where few or no other class of plants will even live. The bed, or bank-border, for I can call it by no better or more suitable name, should face the *north*, *north-east*, or *north-west*, having a wall, building, hedge, or some backing of the kind, so as to screen the plants from the sun. This bank-border should consist of rough stones, logs of wood, etc., piled together for a foundation, unless, indeed, enough rough soil is available to form such a border. The object is to ensure free drainage, and also to make the surface of the bed as much of an incline as possible. The surface-earth of the border or bank should be made with rough chipped turfy maiden loam, sods from a peaty and heathy common, and sand, about equal parts, and some stones may be introduced into the bed in the formation thereof. The bed should be prepared in autumn, or early in spring, so that the plants can be planted in *March*, or as soon as they begin growing a little; this month being the best time to plant them. The tall growing sorts should be planted at the back, and the other less tall sorts next, and so graduated down to the front of the border, which should consist of a dwarf broad wall made of stones, packed together somewhat closely, but with openings to admit of the insertion here and there of such ferns as **Ceterach officinarum, Asplenium trichomanes,** and **A. marinum.** These are all handsome, compact, and dwarf varieties, well suited for such a position. These, and indeed all ferns, should be planted where they are to remain permanently, and not be disturbed. Among the tall growing sorts may be named—

Osmunda regalis, a magnificent fern, three to four feet in height.

Filix mas and **F. fœmina,** three feet.

Polystichum aculeatum, a most beautiful, symmetrical, vase-like growing fronded fern, two and a half feet.

P. angulare and **lobatum**, two and a half feet.

Lastrea cristata and **L. recurva**, elegant ferns, two feet in height, the latter being a most elegant and graceful drooping fern.

L. montana and **L. thelypteris**, both beautiful light green and delicate formed ferns, the latter delighting in moisture for the roots.

Asplenium adiantum nigrum, or Black Maidenhair Fern; **Blechnum borealis**, the **Scolopendriums**, or Hart's-tongue Ferns; **Polypodium vulgare**, and others well suited for the front and the middle part. Blechnum borealis is a most beautiful dwarf and dark green fern. It is desirable to place a few rough stones around the roots after planting, allowing room, of course, for the crowns of the plants to develop themselves. Ferns such as **Osmunda regalis** and **Lastrea thelypteris**, should have a little extra trouble bestowed on them in watering, and a good inch or two of fine river sand or pit sand should be laid about the roots to keep them moist. By no means disturb **Ceterach** when once planted, as this fern is very impatient of removal.

IRIS.—Many of the hardy herbaceous classes will do here. See "Iris" page 86.

LILY OF THE VALLEY.—This plant is too well known to require any description here, and I need not say that this universal favourite may be grown well in the shade. Subdued light is preferable to strong sunlight for the lily of the valley, whether it is grown in the open or under glass for early flowers. A spot in the shade should be selected, and the ground dug over, and if the ground is heavy plenty of leaf mould and sand added to the soil, and well worked in. Then the crowns, single buds with the roots, of course, attached, should be dibbed in at intervals of three or four inches apart, and the soil be closed firmly about the roots; the crowns being an inch or so below the surface. This should be done in *November* or in early spring, the former being the best time.

For amateur purposes, when once a plantation is made, the roots should not be disturbed for, at least, eight or ten years,

but a top-dressing with fine leaf mould, sand, and loam, or old decayed manure, placed over the plants once a year in *December*.

MIMULUS or **MONKEY-FLOWER.** — All members of the mimulus family prefer a shady spot, where little or no sunlight can play upon the flowers. The soil may consist of any good ordinary garden kind. They may be propagated by seed and by division of the roots in spring. The new varieties are remarkably showy and handsome, and **M. duplex** or **Hose-in-Hose**, is most curious and beautiful too. No garden should be without its bed of **M. cupreus** in variety.

MYOSOTIS.—All the forget-me-nots prefer a little shade.

M. semperflorens should by all means have a full north side and a damp spot, for it likes abundance of water. There is no forget-me-not to equal "semperflorens" for floriferous character. The flowers individually are small compared with those of **M. dissitiflora**, but the abundance of them, and the beautiful bird's-eye-like character of the blossoms, makes ample amends for their small size, and causes this variety to eclipse all the others. The plants should be planted out about nine inches apart in autumn. They may be multiplied by seed sown in *April* in the open border, and by division also.

M. dissitiflora is well known and needs no description.

M. Azorica, a large flowering kind, with large leaves, forming a fine border variety.

NARCISSUS.—See "Plants Suitable for South Aspect" page 89, for uses and treatment.

ORCHIDS, TERRESTRIAL, or **GROUND ORCHIDS,** which grow on the earth. Here we come to a hardy, strange, and little-known tribe of plants, well deserving the attention of all who have a shady border. This is necessary more particularly, perhaps, for some than for others, and especially for the **Cypripediums** of which we have many varieties, as **C. calceolus,** or Lady's Slipper; **C. pubescens,** or Downy Lady's Slipper; **C. spectabile,** or Showy Lady's Slipper, a most beautiful variety, with petals of a fine light rose colour and white; and **C. macranthosum,** bearing a most

singular looking and beautiful flower of a rich purple crimson colour. Among the varieties of the **Orchis** there are **O. apifera**, or Bee Orchis, whose flower resembles a bee; **O. aranifera**, with a flower *resembling a spider;* **O. muscifera**, or Fly Orchis; **O. foliosa**, or Leafy Orchis, also termed "The Poor Man's Orchis," a grand tall growing and free flowering species, besides a number of varieties too numerous to name and describe in a small work, but all well worth the trouble of growing in a shady border made with boggy peat, calcareous loam, and leaf mould, with some sand. Moisture at the root is necessary for most of them, but not really stagnant water on any account, and if necessary precautions are taken in making a bed, so as to suit the various dispositions of the plants to be placed in it—inasmuch as some prefer and require more moisture than others—so as to effect a happy medium between the two, no one need despair of succeeding well with this interesting class of hardy shady border plants. The best should be prepared in the autumn, and the plants placed in it; the planting of some sorts may be deferred till *February* or *March*, but when once established all kinds may be permitted to remain undisturbed without fear.

PANSY. — The pansy prefers a shady border, the sun's rays having the effect of making the flowers flimsy, as well as destroying the colour of some. There is no class of flowering plants more deserving the amateur's attention than this, on account of its being in every way the special flower of the cottager or gardener on a small scale, because so much variety can be had in a much less compass than in any other class of flower of like merit. Moreover, the pansy is a popular exhibition plant, and contains so much interest as to make it always hold its own place as such, besides its floral beauty as a garden plant. The ground for growing the pansy in perfection should consist of *maiden loam, one part; horse droppings* from the road, swept up with the sand, while *dry* or *half-dry*, and laid up in a heap for a month or two before wanted, *two parts;* well dug into and mixed with the common garden soil, and made fine by working over spade deep. This should be done in *August* and

September for autumn planting, which is best, and in *February* for *March* planting. Raise the bed *six inches* above the level, and make the surface moderately fine, and then insert the plants eight or nine inches apart with the trowel. The pansy may be multiplied by cuttings through the summer, selected from the young shoots two inches long, which spring up in the heart of the plants. *No others will strike.* Insert these young cuttings in pots or pans, or under a handlight, in fine sandy soil; water and place in the shade till rooted. New sorts may be raised from seed sown in spring or autumn.

SNOWDROP.—These, like the Narcissus and the Crocus may be utilized for the same purposes and places, and in connection with both. For treatment, etc., see **Crocus**, page 79, and **Narcissus**, page 89.

TRILLIUM.—A tuberous perennial from North America, bearing a flower with three petals. Plants of this species are dwarf growing, rather curious, but beautiful and hardy, varying in colour of their blooms and flowering in spring. They prefer shade and moisture, and soil composed of sand, leaf mould, and peat. **T. erectum** has purple flowers, but the blossoms of **T. erectum album** are white. **T. erythrocarpum**, a beautiful plant, has white flowers with crimson spots at the base of the petals; **T. grandiflorum**, large white flowers; **T. sessile**, fine marbled foliage, with pale yellow and deep purple flowers; **T. pictum**, chocolate and green flowers; **T. pendulum**, beautiful drooping white flowers. These should find a place in every garden, and being dwarf are well adapted for small gardens. They should be planted in the autumn; they may be multiplied by seed and by offsets.

TUSSILAGO, or **COLTSFOOT**, called **Winter Heliotrope**, from the fragrance of the flower resembling that of heliotrope, is a beautiful plant for a shady border, and will grow under trees and shrubs, and where little else will live. The flowers are handsome and abundant; it may be grown in any free soil.

VINCA, or **PERIWINKLE.**—There are several varieties of this useful tribe. **V. major** is a fine sub-aquatic evergreen plant, with glossy foliage and large purple blue flowers. Of

V. minor there are two sorts, one with blue flowers, and the other with white. There is a variety of V. major with variegated foliage and blue flowers. All of these are pretty, but the first-named is a fine sort for shady banks, bordered rockwork, and for the side of ponds, fountains, and canals, etc. They may be readily multiplied by offshoots, cuttings, and seed. The time of planting is immaterial, but autumn is preferable.

IV.—SUMMER CLIMBERS FOR WALLS, TRELLISES, &c.

WE may now turn our attention to the adornment of the walls and fences. In semi-detached small villas and rows of cottages, the adjacent gardens are generally separated by fences. These, in some cases, are closely boarded fences, but in others open palings or mere railing. The walls of the dwelling-house are the first consideration. If these are of brick, so much the better, but if stuccoed then some means of support must be devised on which the creepers may be trained. This is best done with wall irons made to fix in the wall to which some cross wires can be tied with stout binding wire. The wall irons, which resemble large nails with a hole near the head, should be driven into the wall in vertical rows at nine inches apart, and stout galvanized-iron wire drawn through them in a horizontal direction, and fixed at one end and strained tight at the other. Wires put up in this way will afford every facility for training creepers to cover the walls of the house. Another plan is to nail wooden studs to the walls of the house, and to attach wire netting to them. Climbers can be trained to brickwork with great ease. Good durable and neat shreds should be used, and fine cast nails, known as garden nails; heavy cast nails and cut nails should not be used. Fine cast nails, if taken care of, will last a good many years, especially if boiled in oil for a few minutes before they are used. This will preserve them from rusting. Garden nails, of a light make with sharp points, can be nailed into the brick, instead of the mortar, and the shred being close to the

brick will hold the creeper fast to the wall and present a neat appearance.

The choice of suitable plants to cover the house walls is a matter of taste, but I may venture to give a fairly comprehensive list from which the amateur may make a selection according to his fancy, or his requirements. I will first deal with summer climbers.

COBŒA SCANDENS.—This is a rapid climber, with large, bell-shaped, purple flowers; it must be raised in heat, and planted out in the beginning of *June*, on the south wall; plants may be had for 6d. each, or even less. The soil should be good and light.

CONVOLVULUS MAJOR.—This annual is well known, and, being both showy and effective, it is always in request. The seed may be sown at the foot of the wall, fence, or trellis, in good, light soil, in *April*. It requires support in the form of wire trellis, tarred string, rods, or even tall pea-sticks, when grown against a wall.

LOASA AURANTIACA.—A handsome, orange flowered climber, which bears orange or light red flowers. It should be raised in heat first, and then planted out at the foot of the wall, in good light soil, at the end of *May*, or the beginning of *June*. The leaves of this plant are furnished with hairs that are possessed of a poisonous stinging property, and the inconvenience —and, to some, even danger—of contact with them has tended to limit its culture.

LOPHOSPERMUM SCANDENS. — A rapid, annual climber, with abundant, clean, cordate foliage, and large, rose-coloured, tubular flowers, which are produced from the axils of the leaf in succession all the summer. It will climb of itself over a netted trellis. It must be raised in *March*, in mild heat, potted as soon as large enough, and then planted out in *May* or the beginning of *June*. Plants may be bought at 4d. each in *May*. Any good soil will do for it.

MAURANDYA BARCLAYANA.—A beautiful summer climber, bearing a profusion of purple, white, or pink tubular flowers, somewhat resembling those of the foxglove in form,

which are produced in handsome, close, successional order, all the summer. It may be raised from seed like the last, or may be multiplied by cuttings. Plants may be had at a cheap rate in *May*. The soil should be light and good.

LATHYRUS, or **EVERLASTING PEA**.—There are two distinct classes of the Everlasting Pea, commonly grown in gardens in this country as deciduous climbers, and both are perennial, and therefore will spring up from the root every spring. The blossoms of both are exceedingly handsome. There are two varieties of **L. latifolius**, one bearing white blossoms, and the other deep pink blooms in large clusters. Preference should be given to the pink variety as a splendid wall climber and unequalled for speedily covering, with its rapid growth, arbours, trellises over doorways, and all kinds of fences. It may be raised from seed sown in the open ground at the foot of the wall; or in pots, and then planted out, but the young plants will not flower the first year, except the seed, is sown in *January* or *February* in heat. **L. grandiflorus** has fine, rosy-pink flowers, of large size and most handsome shape, which are produced in pairs or singly, from the axils of the leaves. Both classes may also be multiplied freely by division of the root.

TROPÆOLUM CANARIENSE. — A handsome annual creeper, for a warm place on a wall, bearing beautiful, yellow, canary-coloured flowers. The seed may be sown at the foot of the wall in *March*, in light and good soil. Place a large bell-glass over the seed to raise it, and when up, set the glass upon three small pots inverted, so as to give air to the plants, but do not remove the glass till danger of frost is over.

T. Lobbianum and its varieties are handsome summer wall creepers, which may be raised from seed like **T. canariense**.

T. tuberosum is a tuberous rooted climber, which will grow rapidly from a tuber planted in the ground in *March* or *April*.

V.—HARDY WALL PLANTS AND CLIMBERS FOR ALL ASPECTS.

Abbreviations:—**S.** *for South Aspect;* **E.** *and* **W.** *for East and West Aspects;* **N.** *for North Aspect.*

AMPELOPSIS.—The creepers comprehended under this name, form a quick growing and hardy class of wall climbers, and are grown partly for that purpose, and partly for the beautiful red colour which the foliage assumes in the autumn There are several varieties grown, of which I may notice—

A. hederacea, or **Virginian Creeper,** a very rapid growing sort with large foliage.

A. hirsuta, said to be the best of all for large, bright red foliage in autumn.

A. sempervirens, with small, evergreen foliaged, vine-like leaves.

A. Veitchii, a fine climber, with small leaves, turning to a beautiful red in autumn, and well suited for walls, rockeries, old logs, banks, verandahs, etc.

Any good, common soil will suit them: they may all be multiplied by cuttings similar to the vine, and may all be grown under any aspect.

ATRAGENE AUSTRIACA ALBA, a species of hardy clematis, with close-growing dark green foliage, and white, small, clematis-like flowers; a fine, hardy deciduous, fast growing climber, fit for walls, fences, arbours, and pillars. It will thrive in any common soil, and it may be multiplied by layers and seed. E. W. or N.

BIGNONIA, or **TRUMPET FLOWER.**—Of this noble family we have a few varieties which may be grown upon sheltered south walls, where their conspicuous flowers will be highly appreciated. Any good soil containing peat and sand will suit them. They are deciduous, and may be treated in a manner similar to that generally adopted for the grape vine in pruning, training, etc.

B. coccinea, yields an abundance of fine, scarlet flowers. **B. radicans major** also bears fine red flowers.

B. Thunbergiana has fine red flowers of a large size, and is very free to flower.

B. capreolata, is a most beautiful, distinct, scarlet flowered variety, suitable for warm and sheltered walls and for cool greenhouses. It may be multiplied by cuttings of the short side shoots taken in summer, and inserted in pots of fine peat or maiden loam, leaf-mould and sand. The cuttings must be placed in mild heat, under a bell glass. S.

CEANOTHUS AZUREUS.—This plant and its variety **C. azureus grandiflorus** are two neat, flowering, evergreen wall plants, with blue flowers. They must be tied to wires or nailed to the wall. **C. Gloire de Versailles** is a superior kind, with large blue panicles of flowers, requiring a warm wall or cool conservatory. The first two will do well out of doors, E., W., or S. Any good, common garden soil will suit them. They may be treated in the same way as jasmines, *i.e.*, thinned out and spurred in.

CLEMATIS or **VIRGIN'S BOWER.**—Of this family we have an infinity of varieties, all more or less useful as hardy climbers, and many of them take high rank among our most showy wall ornaments, varying in colour from white to deep violet blue. They all are well adapted for walls, fences, trellises, and arbours; in fact, on any kind of summer-house. They are admirably at home where they can ramble over rustic work and gracefully display their neat or gorgeous flowers, as the case may be, in natural beauty, and for arcades, balconies, and rustic pillars no class of hardy, floral plants can be found better, if so well adapted, as the climbing clematis family. Of the varieties of this plant recently introduced I may name **C. Jackmani,** deep purple; **C. Albert Victor,** fine lavender, with purple stripe through each petal; **C. Duchess of Edinburgh,** fine double white, free bloomer, and fragrant; **C. Fortunei,** creamy white, rosette form, fragrant; **C. Gem,** a handsome lavender blue, a gem indeed, of moderate growth; **C. Sophie,** pale lilac; **C. Standishii,** fine mauve flower; **C. Miss Bateman,** a fine, pure white, with a creamy band down each petal; **C. Sieboldi,** a superb white, with purple centre, as handsome as an

anemone, a fine conservatory or sheltered wall variety; **C. flammula**, the popular, free-flowering, white clematis; and **C. montana**, much like it, both fine, hardy, old tree varieties, suitable for any situation. The clematis is not fastidious as to soil, but some of the choice sorts, especially the weaker-growing kinds, as **C. Sieboldi, C. Gem**, etc., should have the soil improved for them by the addition of a little maiden loam, leaf-mould, or old manure, peat, and sand, which, when mixed with the ordinary soil, will materially promote free growth, and consequently flower also, for the clematis flowers upon the new wood, that is to say, on the current season's growth. The general subsequent treatment is similar to that adopted for the grape vine. The clematis may be multiplied by layers through the summer, and by cuttings of the short firm side shoots taken at the end of the summer, or as they appear, and placed in fine peat and under a handlight. Some kinds may be propagated by seed sown in spring in pots, and placed in a mild heat. S., E., W., and N.

CORCHORUS JAPONICA, see **KERRIA JAPONICA.**

COTONEASTER.— Of this plant the varieties known as **C. microphylla** and **C. Simonsi** are two beautiful, close-growing, fine-leaved, evergreen wall shrubs, of a hardy constitution, principally grown as wall covers on account of their foliage character and the beautiful red berries which they bear and carry all the winter. They are not climbers and therefore must be nailed to the wall. They are not nice as to soil or situation, and are well suited for the sunless, low, cold, dead walls frequently met with in the back gardens of small villas and cottages. They may be propagated, like the currant, by cuttings laid in a shady border in the autumn.

CYDONIA JAPONICA.—This plant, which, perhaps, is better known under its old name of **Pyrus Japonica**, is one of the earliest, most showy, and hardy deciduous wall plants we possess, and is so easily grown that one feels a little surprised that so few of them are even now met with. This plant is capable of extending itself over a much greater space of wall than we generally find it covering. The plant may be easily

trained out like the fan-shaped pear and be pruned in the same way, reserving the blossom buds for very early spring flowering. There is no plant that so enlivens the walls in the cold and cheerless months of *February* and *March* as the **C. Japonica** does, with its large, scarlet-red flowers. Neither soil nor situation affects it. The only difference is that in a West or Northern aspect the flowering season will be later than in the South or East aspect. No cold seems to affect the flowering unless it be that the blooms are earlier or later by a few days according to locality. This plant is well suited for almost any class of wall or fence, for the front of the house, and for verandahs. It may be multiplied by layers and by seed.

ESCALLONIA.—Of this plant **E. floribunda** is a variety bearing a very large, white flower, and **E. macrantha**, one that yields an abundance of splendid, waxy-red, trumpet-shaped flowers, which are well set off by its glossy, dark green foliage. These two may be taken as the best of the genus, forming most suitable shrubs for a south wall. They are not climbers, but fast growers, and therefore must be nailed to the wall or tied to the trellis as the case may be; they should be thinned out and pruned in the same manner as the climbing fuchsia. A suitable soil for them will be found in any good, common garden soil with some peat, leaf-mould, and sand added to it. They may be propagated by cuttings, like fuchsias, all through the late summer months, inserted in pots filled with fine, sandy peat, and placed in a mild heat or under a hand-light. S.

EUONYMUS or **SPINDLE-TREE.**—Of this tribe there are several varieties, all evergreens, and well suited for nailing upon walls in any aspect, being as hardy as the oak. They may be trained to cover any reasonable space of wall, but for low walls and divisions which frequently occur in gardens at the back of rows of houses there is no class of plants better suited than these, on account of their abundant, evergreen foliage and pretty, variegated character, which wonderfully lightens up dead and dark places. **E. Japonicus** and its handsome varieties should be chosen in preference to others. These are all remarkable for their green foliage, variegated with splashes of

gold and silver colour. They may be multiplied by cuttings of the season's growth in *September*, four or six inches long, and inserted under a hand-light in a little shade. See page 58. E., W., S., or N.

HEDERA or **IVY.**—Of this genus little or nothing is necessary to be said more than that wherever the amateur may plant ivies, he should take care never to plant old plants nor large plants. One-year old plants, well rooted, are much preferable to older ones. It is useless, and worse than useless really, to plant old plants that must be nailed to the wall, or fence, or building, for these never will cling to the wall after this manner, and are a perpetual annoyance; but when the ivy commences growing from the ground, *i.e.*, making young growth, it will commence to cling also, and will then give no further trouble in this way. Ivy should be clipped with hedge shears close to the wall or fence once a year, or once within two years at the utmost. This should be done in the months of *February* or *March*, and not before nor after. Then ivy will always present a neat appearance and never get blown down by rough winds. The variegated varieties make very handsome wall plants, and are well fitted for the decoration of low or high walls in all aspects. They are not fastidious as to soil, but the choice variegated sorts should have a good, free soil for them, as they are less vigorous than the common, green sorts. **H. Canariensis** or **Irish Ivy** is a very large-leaved variety, and grows rapidly. The varieties of the common British Ivy, **H. helix**, some green-leaved, and others variegated with silver and golden splashes, are remarkably neat and close-clinging sorts. Ivies may be planted at any time from *October* till *April*, and should be dug in with the spade as close as possible to the foot of the wall. All may be propagated by cuttings of the summer's growth, six or seven inches long, laid in a shady border half their length. Indeed, the cuttings may be put in, six or nine inches apart, close to the foot of the wall, wherever they are wanted to hide any space that it is desirable to cover permanently and speedily, and if a little nice soil is dug in with the cuttings at the time, and trodden firmly

upon them, they will all grow and immediately commence to cling.

HUMULUS LUPULUS, or **HOP**.—This variety is the only one commonly grown, and is a hardy perennial and rapid climber, of handsome foliage and graceful flowering character, fit for arcades, arbours, pillars, and open fences. It is propagated by division of the root. S.

JASMINUM or **JASMINE**.—Of this family **J. nudiflorum**, a charming winter flowering variety, with yellow flowers, which in mild winters are yielded in abundance, and **J. officinalis**, the common white variety, are about as good sorts as anyone can desire, and are enough for most people; these may be grown and utilised for east, west or south walls, and are not nice as to soil, so long as it is moderately light and well drained. Jasmines may be trained upon walls, and treated in the same way as the grape vine, that is to say, thinned out and spurred in. E., W., and S.

KERRIA JAPONICA.—This plant was formerly called **Corchorus Japonica**, and by some it was styled **Jew's Mallow**. Three varieties are known, namely, **K. Japonica**, with single yellow flowers; **K. Japonica flore-pleno**, with double flowers; and a third with variegated foliage, which is not much of an improvement on the old sorts I think, for the lovely soft yellow flower is much better set off by the serrated dark-green foliage of the first two sorts. The double variety is certainly one of the best, old-fashioned, free growing, and free flowering wall plants we have. They are not climbers, therefore they must be tied to trellis-work or nailed to fences and walls, &c. Any good common garden soil will suit them. They may be multiplied by cuttings of the summer's growth four or five inches long, inserted in pots of fine soil, maiden loam, leaf-mould, and sand, or sandy fine peat. The cuttings will soon root under glass. E., W., S., or N.

LONICERA or **HONEYSUCKLE**.—Of this family there are many sorts which require but little description, for they are all or nearly all so well known as to render it unnecessary to say much about them. Aspects and soils are matters of little im-

portance for most of them. The **Japanese Honeysuckle,** or **Lonicera aurea reticulata,** with its pretty foliage covered with a network of gold, does better when placed where it can have a fair amount of sunshine, but it will grow well in any aspect. **L. sempervirens superba,** the beautiful scarlet trumpet honeysuckle, and **L. s. fuchsioides,** another most superb variety with scarlet trumpet-shaped flowers, should have a southern aspect and good rich soil. Honeysuckles must be nailed upon the wall, but they will twine themselves upon a trellis, or upon open work of any kind. The fast-growing and hardy sorts are the most desirable plants possible for arcades, chain fences, rustic arches, balconies, and pillars. They may be multiplied by cuttings or layers, and some by seed.

MAGNOLIA GRANDIFLORA EXONIENSIS is the only member of this family that is worth noticing here, or I might rather say that no other variety can be wished for. As regards both its grand foliage and magnificent blooms it is the most superb flowering wall plant that we have for wall decoration, but it requires a good high wall and a sheltered spot, and peat and sand to grow in. The flowers are pure white, and as large as a coffee cup when open, and of the most delicious fragrance: no house wall facing the south should be without this plant, for its general noble character and large evergreen foliage cause it to form a cover for walls that is unique in itself. A single plant will suffice for a large space of wall, and may be had for 2s. 6d. The soil should be well prepared, and the plant planted in *March.* The pruning consists of thinning out so as to admit sun to ripen the new growth, and spurring in, which may be done in early spring. Half ripe young wood six or eight inches long from the base, and taken off with the base of the season's growth and made into cuttings by smoothly cutting the base of the cutting over with a keen edged trimming knife, and then inserted into pots filled with pure sandy fine peat, half their length, and placed in a mild bottom heat, will root in course of five or six months. Layers made in the same manner as for Laurels &c., will root slowly. The Magnolia may also be grafted and budded, and raised from seed sown in heat in spring. Some of

the other varieties as **M. conspicua** and **M. obovata**, purple, may be used as stocks for grafting the above-named fine sort upon.

PASSIFLORA or **PASSION FLOWER.** — Of this remarkable family **P. cœrulea, P. Newmani,** and **P. edulis,** are the most popular hardy kinds for the open air. The last named produces fine and handsome eatable fruit, and bears freely in **Devonshire** in south aspects on the walls of houses. The first and second varieties are rapid and handsome flowering climbers, which require a large space to develop themselves. They may be grown in any good common soil, and should be well looked after to prevent confusion of the current season's growth. They may be propagated by seed, by cuttings, and by layers.

PYRACANTHA.—This is the evergreen yellow-berried Thorn, which presents so handsome an appearance in the winter with its clusters of finely formed berries. It is an exceedingly useful hardy wall plant, though not a climber, and therefore must be nailed in as it proceeds; the plant well suits any class of wall in any of the four aspects and will grow in any common good soil. It may be raised by seed as for quick, or white thorn, and by layers.

ROSES.—Of this glorious family I select for *south* walls the following varieties:

Maréchal Niel.—The most perfect and beautiful yellow climbing rose grown, possessing but one fault, which is, that it flowers but once in the season.

Gloire de Dijon is not so handsome a rose as the first named, but possesses the desirable quality of seldom or never being devoid of flowers. It is the most desirable fawn coloured fragrant wall rose it is possible to have.

Celine Forestier.—A rich yellow, with shaded centre, forming a fine wall rose.

Cloth of Gold.—A fine sulphur-coloured wall rose, whose flowers will not fade soon.

Unique Jaune.—An old Noisette rose, free growing, and bearing copper-yellow shaded flowers in clusters: is exceedingly fragrant and handsome in the bud. This is a very desirable rose for walls.

Aimée Vibert.—The most beautiful pure white wall rose out, constantly in flower, very hardy, and bearing its flowers in clusters.

China or **Monthly Rose**, an old, well known, and a great favourite on account of its perpetual flowering habit.

R. sanguinea.—A deep red, globular-flowered variety of the China Rose: presents a striking contrast to **Aimée Vibert** when on the same wall, producing a good effect.

R. bracteata, or Macartney rose, is a most splendid, single white rose with a dark centre, and should have a place on every south wall of the house.

Banksian Roses, white and yellow, should never be omitted from the south wall where there is a space at all sufficient for their development, that is to say, room above head. These two roses are fast growers, and require head room for the season's growth, which frequently will be eight or ten feet. They should be allowed full development, and kept well thinned, so that their strong growth can get the sun so as to ripen it well: then in the autumn or winter following all the old wood should be cut clean out, leaving the young rods entire, and upon those you may look for a cluster of roses at every bud the whole length of the wood. When these long rods do not occur, careful shortening in of the spurs must be resorted to, but too severe cutting in upon the old leaders will prove fatal to flowering. These roses should be induced to make long rods by all means, and then, if the mode of pruning that I have suggested be followed, no one will discard the Banksian rose because it does not flower, and these two lovely varieties, which are unlike all roses, will be appreciated above all others.

For *east*, *west*, and *north* walls, choose climbing roses from the hardy **Ayrshire** family, and **R. sempervirens**, and from these select in preference the following:

Dundee Rambler.—A hardy rose, bearing very large clusters of double white flowers, tinged with pink. This rose is a rapid grower.

Splendens.—A delicious myrrh-scented rose.

Félicité Perpetué, with creamy white blossoms.

Donna Maria, pure white.

These are all most useful and desirable rapid climbing roses for walls, fences, or arches. To be successful with climbing roses, the rule for treating the Banksian roses holds essentially good in all, although perhaps it should not be followed out so strictly with others as with these. The soil for roses should be good, mellow, and rich, and should be well manured annually. All the new growth should be allowed to ripen thoroughly. Perpetual flowering sorts may be cut back a little after each batch of flowers, and those flowering but once should be pruned once only.

WISTARIA.—This is no doubt the most lovely, rapid, blue-flowered wall climber we have. It is as hardy as the oak, and there is no deciduous climber to excel it for decorating walls, arches, round windows, roofs of conservatories, arcades, corridors, and pillars. The long blue laburnum-like racemes of flowers that appear so abundantly in spring render this climber superior to all others, when it is displayed to advantage. The varieties recommended are **W. Sinensis**, with pale blue flowers, as already said; **W. alba** with white flowers, and **W. floribunda** which has racemes of pale blue flowers of greater length than those of **W. Sinensis**. The soil should be of a good mellow and sandy nature, enriched with manure. The plants should be planted in autumn. The pruning may be carried out in the same manner as for the grape vine, leaving the long rods and short side spurs of nearly full length for flower. The Wistaria may be propagated by layers, as for the vine, and by cuttings of the ripe young wood six, eight, or ten inches long in autumn. Aspect E. W. & S.

In naming the above I have furnished a list of about fifty good hardy summer wall climbers that can be well recommended, and from which a selection may be made to suit every class of taste and area of house walls. The details of treatment that are given are, I think, sufficient to guide all persons who are not acquainted with them to success in their culture.

VI.—PLANTS AND FLOWERS SUITABLE FOR EAST ASPECT.

IN towns and the suburbs of cities dwelling-houses must unavoidably be arranged with frontages facing every point of the compass, and so also must it be in country villages from the position of the roads, but of all aspects the Eastern one is the most objectionable for garden purposes, notwithstanding the fact that in some favourable seasons plants having this aspect are earlier than those on the western side. The greatest drawback to the eastern aspect for our island is the liability in spring to the cold, dry, and parching winds which we almost invariably get from that quarter during *March* and *April*, and even in *May*. These scorching east winds materially damage half hardy plants, even some varieties of the rose, pear and apple buds, and many kinds of hardy shrubs are often much damaged by them, so that for an eastern aspect choice must be made of hardier subjects to which no injury can accrue from the force of such winds upon the walls of the house. The same classes of plants may be used for the ground as for the other aspects, but for the walls some of the most hardy climbers, or those sorts of summer climbers that come into leaf and blossom at a later period than the more precocious varieties, should be selected. *All the summer climbers* already named may do, as these will not be planted out before all danger of these cold winds is over.

Those preceded by a star (*) in the list of wall plants suitable for a southern aspect may be planted here also, with some additional sorts, as **Ampelopsis hederacea**, or the Virginian Creeper, which presents a beautiful appearance in the autumn, when the foliage changes from green to red. Many of the deciduous honeysuckles will also do well in an eastern aspect.

RUBUS. — The double white, and double red flowering brambles are both handsome and hardy.

IVIES.—The small leaved silver and gold variegated varieties are well suited for this situation, and are handsome when well established. To be successful with these series, or, indeed,

any others, make the ground moderately good, and take care never to plant large plants. Do not on any account put in plants that require nailing on the wall. *Nail ivy!* Why the idea is monstrous. If the wall will not take ivy without nailing, it is better not to plant ivy there at all; if it will, then take care to plant well-rooted one-year-old-plants, which will do far better than older ones, and induce the plants to begin to cling of themselves to the foot of the wall quite close to the ground, otherwise your labour will be all thrown away, for ivy plants which want nailing at all will never make a good wall cover, but will always be a trouble one way or another.

HUMULUS LUPULUS or **HOP.**—The handsome flowering hop is a hardy perennial with handsome foliage and loose panicles or trusses of greenish yellow flowers, which render the plant desirable as a creeper to cover arbours, arches, porches, and pillars. Plant ground roots with a crown in *February.*

To the above-named plants may be added such as the variegated **Euonymus,** which when freely grown makes an elegant wall-cover, either nailed or tied in neatly. Very neat evergreen wall-covers in bleak places are also furnished by the varieties of **Robina hispida,** or the **Rose Acacia,** which produce large and handsome rose-coloured flowers, and even the **Cupressus,** or **Cypress,** and some of the varieties of the **Thuja,** or **Arbor vitæ,** may be trained upon walls.

VII.—PLANTS AND FLOWERS SUITABLE FOR WEST ASPECT.

MOST of the hardy bulbous plants named for the southern aspect and those annuals which have a "star" prefixed to their names will do here also, the only difference being that they will flower somewhat later. Likewise those climbers that have been recommended for the East Aspect will do well here, and most of those marked with a "star" which have been named for the South Aspect.

In gardens upon a larger scale taller growing plants of both annuals and hardy perennials may be introduced, preference

being given to the best among the hardy, bulbous, and perennial herbaceous sections for Eastern, Western, and Northern Aspects, as being less liable to fail, and finally being acquired at less expense. Of these the following may be selected from the hardy bulbous and tuberous rooted classes, as being likely to do good service in the adornment of the garden.

Of the **Anemone**, the best kinds are **A. Japonica** and **A. alba**, to which may be added **Honorine Jobert**, remarkable for its large pure white flowers.

Asters may be introduced in variety, preferring **A. Novæ Angliæ**, **A. grandiflorus**, and **A. ericoides**. These are hardy, rather tall growing, but beautiful autumn flowering plants for the hardy garden. Then there are the **Aquilegias**, **Delphiniums**, **Campanulas**, **Geums**, **Irises**, **Gladiolus**, **Chrysanthemums**, **Sweet Williams**, **Phloxes**, **Double White Rockets**, **Hemerocallis** or **Day Lily**, **Papaver Orientale** and **P. nudicaule album**, **Pæonia Chinensis**, **Tritoma**, **Double and Single Stocks**, **Lilies**, **Crown Imperials**, **Narcissus**, **Jonquils**, **Funkias**—a family of liliaceous plants with blue or lilac flowers—and a variety besides, which need not be named. These are handsome and permanent plants which are, however, too tall in their growth for small cottage and villa gardens, for, in my opinion, nothing looks much worse than large beds filled with tall growing plants on areas of inconsiderable size. This style of flower gardening has the effect of making a small place appear even smaller than it is ; besides, the plants cannot be seen to advantage. To my mind there is as much art in adapting the subjects to the size of the garden in which they are to be grown, as there is in furnishing the beds with suitable subjects. There are many persons, it is true, who can never look at things in this way, but notwithstanding this the rule just laid down holds good in all nature and art too.

PART III.—VEGETABLES AND HOW TO GROW THEM FOR PROFIT.

ANOTHER very important part of amateur gardening I now come to—namely, the culture of vegetables. This department has engaged, and still does and ever will engage, the attention of both town and country amateur gardeners alike, in an equal degree, for all who can have a plot of land for growing vegetables take advantage of it, and many, nay, most of them wish to get as much off the bit of ground as it is possible to do, even if they do not succeed in their undertaking. Now, with regard to the greater part of those who fail to make the most of their land, the reason is that they go to work in the wrong way, while, with others, the high price of land around towns at per square perch, which, to say the least of it, is too much by one half, tends to bring about failure, because it induces the occupants to resort to over cropping, which, I may say, will seldom bring about the object in view. I hold with *multum in parvo* cropping of land, but not in over-riding one crop with another. This, in a general way, will have the effect of detracting at least one half from the two crops.

I.—VEGETABLES, &c., SUITABLE FOR SMALL GARDENS.

POTATOES.—I will begin with this useful root, which is one of the principal vegetables grown. To get the full

benefit from the land under this crop I advise, first, the planting of the ground in *January* with some early sort for which the ground is best suited. In doing so, plant the tubers thickly—much closer, indeed, than is usually done. The best way is to plant them in four-feet beds, and put them in across the bed in short rows of six sets in a line, the outside sets being five inches from the pathways, and the rows being one foot three inches asunder. This is quite wide enough for all early kidney potatoes, such as **Myatt's Early Ashleaf**; the old **Ashleaf**, which is an extremely good sort after all, and very early; the **Coldstream Early**, a round white potato much like the old **Early Frame**; and the early sort known as **Bresee's Prolific**, a handsome round white potato. The **Coldstream Early** much resembles the old **Early Frame**, as I have said, and I am inclined to think it is the same with a new name, or, if not, that it is a sport from the **Early Frame**. Be that as it may, I have never yet seen a round early potato to equal the old **Early Frame** for bearing, for earliness, and for flavour, and if the ground is made good, and is light as all potato ground should be, and some manure and wood ashes are placed in the trenches, as dressing, upon the sets, I challenge the whole category of early potatoes to equal it in any respect; and as for productiveness and the number of potatoes of good size it produces fit for table at an earlier date than the fruit of any other kind I know of, there is none to match it. This is no mere fancy of mine, for I have grown it many years; but it is of no use planting this potato, nor the Ashleaf kidney, without plenty of good manure. My advice, then, to the amateur is to plant one of these two kinds, and to use as sets whole seed of a moderate size, about an inch and a half in diameter, and to put them in quite as close as named above, or even make the rows closer together—say, one foot apart. Plant the sets full *six inches* deep, and *dig them in*, and should there be hard frost, cover the surface of the ground to the depth of six inches with ferns, leaves, cocoa-nut fibre, old tan, etc. Should the spot be an early one, as it should be, these potatoes will be fit to take up by the end of *May*, and the ground will be full of

potatoes. Then, out with them, and, if you are growing for profit, off to market with them, and then plant the ground again with one of the second early sorts, as **The Fortyfold** or **Early Oxford**, two splendid prolific potatoes, either of which will be fit to take up by *August*, fine and ripe, from the same ground from which the first **Early Frame** or **Ashleaf Kidney** were taken. The ground can then be fairly planted with broccoli, celery, cabbage, coleworts, early cabbage, kale, or very early lettuce, and, if this plan be followed up carefully and perseveringly, as I should do myself, it is fair to estimate that a profit of *30s. per square perch per annum may be gained from the ground thus cultivated.* This, as far as my experience goes, is not at all an over estimate, but rather under the mark, and throughout the whole year there has never been but one crop upon the ground at one time. This is done by some market gardeners, and more than this ; and why should not our amateurs do the same in their cottage and villa gardens? They can do so if they will ; then let them try and do it. Look well to the method advised, and try it, and leave off double cropping, *i.e.*, over-riding one crop with a second, before the first is off the land, as many are doing with a view to make gardening answer and pay too high a rent. I tell you it cannot be done that way. But why not? say many. Because you only get a half crop of each. Look at it fairly, and consider whether I am speaking the truth or not. You plant a late crop of potatoes, and then you plant broccoli or kale plants between the rows, and the potato tops outgrow the plants, and completely house them in and choke them, so that by the time the potatoes are fit to take up, the plants are so weakened and drawn that they can never come half-way to perfection ; and in the meantime they have impoverished the potato crop, and the potato crop has impoverished them. Depend upon it the plan of growing two crops upon the same piece of ground at one time is bad. Make all the pure wood ashes you can, and keep them dry till you want them. I grew the best potato crop I ever had with wood ashes as manure, and they were not only good but free from disease too.

In addition to the varieties of the potato that have been named above, the following will be found to be sorts that are well worth growing :—

KIDNEY.—*White :*—**Ashtop Fluke; Fluke; Lapstone; Magnum Bonum; Myatt's Prolific Ashleaf; Snowflake.** *Red :*—**Early Rose; Hundredfold Fluke.**

ROUND.—*White :*—**King of the Earlies; Royal Ashleaf; Schoolmaster.** *Red :*—**Pink-eyed Kemp; Redskin Flourball; Wood's Scarlet Prolific.**

CABBAGE.—The best crops of cabbages are produced upon adhesive rich loam, with strong manure, but good cabbages can be grown upon well manured potato ground as advised above, by applying a good additional dressing of soot and salt. Both these manures are good for cabbages dug into the ground after the potato crop is removed, at the rate of 2 lb. of soot and 1 lb. of salt to the square rod. Soot sown over the crop when one-third grown is good also, and nitrate of soda. There are so many varieties of this vegetable and so many opinions as to which is the best, that it is difficult at the present time to say positively which sorts are the most suitable for all persons. The safest course, I think, will be to look back at some of the old sorts, as I have not found among the new varieties—and I have grown a good many—any that will equal the **West Ham Cabbage** for dependence for a crop as early as cabbages are usually wanted, for substance and good flavour, for size, for colour, and for character and disposition. I care not what may be said to the contrary, or in favour of the **Enfield Market** and **London Market** cabbages, neither of which can compete with the true **West Ham Cabbage.** There are many who are not aware of this. The true **West Ham Cabbage** differs from both of these, as well as from a good many more besides, in the following points :—It is as early or earlier than either, and will not run to seed if sown for spring cabbages in *July*, as I have proved ; in fact, it is rather difficult to get it to run to seed at all, if true. Some seedsmen insert this cabbage in their lists under the name of **London,**" "**Battersea,**" or "**East Ham,**" which, however, only leads to

confusion. The characteristics by which the true **West Ham Cabbage** can be recognised are as follow :—The stem is short, a little blue in tint, and not large—not thicker indeed than a man's thumb. The leaves are short, roundish, stout, and thick, and of a dark green, and if grown well the cabbage is tender and fat, and hearts in early ; and when the first cabbages are cut off, the stems will give a second crop of four or five good cabbages by the early autumn, each head being nearly equal in size to the first cut. This cabbage may be planted closer than the **Enfield Market.** The seed may be sown without any danger of running to seed as early as the 20th of *July.* The next best early cabbage is the **Early Rainham**, which is much like the **West Ham Cabbage,** but not so good. The **Early Rainham** is a much earlier and closer-growing cabbage than the **Enfield market.** I have proved them both side by side, and can recommend the **Early Rainham** in preference to the **Enfield,** as being an earlier and a better cabbage.

The Paignton Cabbage is one of the heaviest late market cabbages we possess. It requires very strong land, but it is a good fat cabbage, and very desirable for a late crop.

Atkins' Matchless. — This is no doubt the prettiest and most even-growing late summer or autumn cabbage known. If the seed of this cabbage is sown in *March*, about the 20th or the end of the month, the plants will be strong enough to plant out on the early potato ground, and may be planted one foot six inches apart from row to row, and one foot apart in the row. At these distances about 220 plants per square rod or perch will be required. **These** will be all fit to cut by *September* as fine, solid, close-hearted cabbages, of excellent flavour, and a dark green colour. The same cabbage may be sown on the *20th of August* for an early crop in the spring, and will turn in quick. The cabbage is of medium size.

Drumhead Cabbage.—This is essentially the poor man's winter cabbage, and one of the best for flavour, size, and profit, and one I prefer to any when well cooked, flat, and good. In strong good ground this cabbage will attain to the weight of twenty pounds. The seed should be sown in *September* previous

to planting them out in the *May* following. The plants should be planted in rows two feet six inches apart, and about twenty inches apart in the rows. Do not plant long-legged plants but select nice, short, stocky ones, and dibble them in quite up to the leaves.

Savoy.—To get good prize **Savoys** of the **Drumhead** class the seed should be sown in *September*, so that the plants may be ready to plant out in *April* in the succeeding year. The ground should be good and well manured. The plants should be planted out two feet six inches apart from row to row, and one foot six inches apart in the row. At such distances about eighty plants will be required to each square rod or perch of thirty square yards. These Savoys will attain a large size and be worth threepence each, retail.

The **Green-curled Savoy** is quite another thing and never forms a solid cabbage heart, but is, however, a nice green variety, and if sown in *February* and planted out in *May* in rows two feet apart and one foot six inches apart in the rows, will come to as much perfection as can be had in the kind. The amateur will prefer this small Savoy to the larger kind described above, as being more delicate in flavour.

Brussels Sprouts.—This vegetable is not looked after much by cottagers, but the higher and middle classes like to grow them if possible, and a great many are grown for market, and the sprouts sell well, for most persons like them as a superior, tender, and delicious vegetable when cooked well. The greatest difficulty is to get a thorough good kind ; but when this is done there is no cabbage kind of winter green more profitable or excellent than **Brussels Sprouts.** Seed that is imported is generally considered the best in quality, that is to say, the imported seed produces sprouts of the best quality and more true, or in other words, having the stems better filled with solid round sprouts, than the English saved seed. I think this is chiefly owing to a want of proper care in selecting the very best and most perfect seed plants, and then in saving the seed from none but the chief heads and not from the weaker laterals. These should be cut off, and when the seed pods are formed

nitrate of soda or soot should be scattered over the ground in the proportion of one pound to the rod. This will increase the size and improve the quality of the seed, which will have additional power concentrated in it by virtue of the stimulus applied at the proper time. Depend upon it it is necessary to give a stimulus to the formation of all kinds of seed in order to obtain the highest degree of perfection in the succeeding generation If these rules are followed up there can be no doubt that the English saved **Brussels Sprouts** seed would give results equal to those obtained from the imported seed. The seed should be sown in *February* in the north and midland counties, but in Cornwall and the western counties the seed need not be sown until the *20th of March.* Now some recommend a southern aspect in which to plant out the plants, but this is an error, for the sun in the autumn, on the south side, will cause the sprouts to burst as soon as they are half formed, and before they arrive at perfection. I have proved that the best aspect in which to obtain good, firm sprouts is a cold open spot, say west by north, or a full northern border. Many have no choice. To these I would say, do not plant the plants too soon, but to those who have the advantage of aspects I recommend the planting out of the plants in one of the two aspects above-named and in good land in *May*, in rows two feet apart and one foot six inches apart in the rows. Under such culture good, firm, and large sprouts will be had in the autumn and on through the winter. The tall-growing varieties are the best for large gardens, but the dwarf kinds suit small gardens best. A great deal is said about some particular named sorts, but none will preserve good stocks except by careful seed-saving. For this reason I have abstained from naming any particular sorts.

Broccoli.—This is a very important autumn and early and late spring vegetable, which some say does best when planted upon poor land, some manure being applied to the plants a little before they head. This, however, is not the way to obtain fine close heads. It is true that some kinds are more luxuriant in growth than others and are apt, in strong ground, to make thick, sappy stems, which are the first to suffer from severe and pro-

tracted frost. Those kinds are generally the best and finest classes all of which require the best of land to obtain prime heads. Then how can first-class broccoli be obtained by planting upon poor land, even if the after treatment be the best possible? The reason is plain—because there is wanting sufficient preliminary development of the organism of the plant, in just the same manner as there would be in a weak and half-developed vine rod, upon which no one would look for first-class bunches of grapes. Then what is to be done to get first-class heads from spring broccoli? There are two ways of effecting this. It is evident that the plants must be set in good land in order to get good heads, and where the land is such as will tend to produce over-luxuriance of stem, either less strong manure must be used or the sorts that are prone to this must be avoided, those being selected that are less liable to throw up sappy stems, for if this can be avoided and stems of medium or even small growth, consisting of woody fibre instead of sap, can be obtained, there will be no danger of losing the crop in severe frosts, or of failing to get fine heads. In low and damp localities with rich strong ground broccoli always suffer most It is quite hazardous to plant strong-growing kinds in such grounds, and for such localities should be selected such sorts as **Knight's Protecting, Backhouse's Winter White Protecting, Chappell's Cream, Mammoth, Millar's Dwarf, Dwarf Russian,** and **Cattell's Eclipse.** The three last-named sorts are late and exceedingly hardy. The others are hardy, early spring broccoli. For cutting in autumn choose **Grange's Autumn,** a fine kind, or **Veitch's Autumn Giant,** a sort much liked, both of which may be sown about the middle of *April.* Then there are the cauliflowers, of which choose the **Early London** for spring and the **Large Asiatic** for early autumn to precede the **Grange's Autumn** and **Veitch's Giant Autumn.** The cauliflowers should be sown, the **London** on the 20th of *August,* to stand all the winter, for planting out in the following *March.* The plants will pass through the winter unprotected if sown on a south-west or west border, and on rather poor ground. Cinder ashes or cocoa-nut refuse fibre should be sifted among them to

the depth of about an inch. Sow the seed rather thin and let the plants remain in the seed bed, as transplanting them induces growth when the plants require to be kept quiet.

The **Asiatic** should be sown about the middle of *May*, and be planted out on good land as soon as the plants are large enough to handle well.

Broccoli plants should all be pricked out from the seed beds into nursery beds, at a distance of four or five inches apart as soon as they have four leaves. This will make them robust, and check sappiness in the stems. The ground should be made firm before planting, and quite solid after by treading, and the stems should not be much earthed up, if earthed up at all. In the spring, as soon as the hearts begin to grow, scatter among them over the ground *nitrate of soda*, in the proportion of one pound to each perch. This manure assists wonderfully in producing fine heads of broccoli, and cauliflower. Under this mode of culture, it will be but seldom that you cannot have heads for tables. As I am writing for cottagers and middle-class amateurs, I don't feel it necessary to mention more sorts, but the names and qualities of desirable kinds may be readily ascertained by those who may require more intermediate sorts, by making inquiries of any seedsman.

BEANS.—It is scarcely necessary for me to say that for small gardens the **Royal Dwarf Fan Cluster** and **Beck's Dwarf Green Prolific**, are the most suitable and profitable. These sorts may be sown as edgings beside the pathways: they yield as good crops as the taller growing sorts, which may be grown to equal advantage by those who have broad spaces of ground fit for the purpose. Of the taller kinds, perhaps **Early Long Pod**, a small bean, but early and prolific, is as good as any: this may be sown in *November*, *December*, and *January*, but not later. It is extremely hardy. The **Sword Long Pod**, and **Johnson's Wonderful** are two extraordinarily long podded beans and great bearers. The green and white **Windsor** Beans are sorts that are well known; each of these kinds may be sown from *February* till *March*, and the first week in *April*, but not later. It is better not to sow broad beans of any kind later than *March*,

on account of the black fly by which they are liable to be infested when sown late. That is, the beans will of course come into bearing later, and at a time when the black fly will attack them before the pods can fill, and this will prevent them coming to perfection in nine seasons out of ten, especially should the season be dry. The land for beans should be heavy in character, very light and poor land will not bear good beans, unless it be well manured and the beans are sown in *November* and *December*.

Beans, Dwarf Kidney. — Some cottagers cannot see the advantage of cultivating these Dwarf French beans, as they are often called, over the **Runner** kinds. Some never can be persuaded that beans of the Dwarf kinds are even superior in flavour to those yielded by the Runner classes; that they are equally profitable, and perhaps even more so; that they are far better adapted for small gardens, and lastly, yield a much earlier crop. If any one with appreciable taste is asked to say which kind possesses the richest flavour when well cooked, I am sure that he will pronounce in favour of the dwarf beans. That they are equally as profitable as the runners can be proved to demonstration, for some sorts, such as for example the **Canadian Wonder**, will bear quite as many beans per lineal yard as the runners, besides, two rows may be sown where only one of the runner class may be put in, and in addition to this, sticks may be dispensed with altogether, which are absolutely necessary for runners when grown in the ordinary way. Two or three successional sowings of the dwarf beans may be made, while only one of the runner class can be managed, and finally, I may repeat that the dwarfs come into bearing many weeks before the runners.

The land for *French beans* should be good and of a light nature. The first sowing should be, or rather may be, made in *April* on a warm, sheltered border. These may be up above ground too soon to be clear of frost in *May*; if so, some protection must be afforded them. This may consist of sprays of fir branches, laurels, furze, loose straw, ferns, &c., which may be placed over them by night, when there is likely to be a frost,

and when the frost has been so severe as to touch the beans at all, do not remove the coverings till 12 o'clock in the day, and they will recover, but if the sun strikes upon these beans or any such tender plants while frozen, death is the inevitable result. Another sowing may be made at the end of *May*, a third sowing at the end of *June*, and another sowing at the end of *July*. These four sowings may consist of the same variety, the **Canadian Wonder**, for no better can be had for productiveness, length of pod, tenderness, and flavour. It is a most wonderful bearer, but for the first sowing perhaps, it might be as well to sow **Fulmer's Early**. This is a good bean, and more hardy—if such terms can be applied to kidney beans.

The land should have been well dug over and manured a full month before sowing the beans. The drills should be neatly drawn with a half-moon hoe by line: they should be four inches in depth, and the rows from twenty to twenty-four inches apart, for **Fulmer's Early**. The beans sown should be dropped into the drills three inches apart in a single line; when sown, draw over them the fine soil which was taken out of the drill. The **Canadian Wonder** should be sown in a warm soil: that is to say, the soil should be warmed by the sun before the seed is sown. That is why I advise **Fulmer's Early** for the first crop. The **Canadian Wonder** should be sown in rows two-and-a-half feet apart, and four inches from bean to bean in the row.

Runner Kidney beans may be sown at the end of *April* in any open space, in rows four to five feet apart, and four to five inches from bean to bean in the rows. They must be stuck with long and stout sticks. The best way to stick them is to drive one row of sticks in on one side, slanting slightly inwards over the centre of the line of seeds, and then to put in another row in the same manner, on the opposite side. At the top, the sticks should be strongly tied with tarred cord to others, placed horizontally from end to end of the row, about six inches below the top of the shortest stick in it. This will bind the sticks well together, and secure them against displacement by high winds. If clean oak wood sticks are used, they will last two seasons for the same purpose.

Runner beans may also be grown without sticks by nipping out the points when a few inches high, and continuing this process for some time. There is not much, if any loss, in production in beans when treated in this way, but they do not look so neat and trim as when they are allowed to run up the sticks. Another method is to place hurdles along the rows, and allow the beans to climb over and cover the hurdles. Runner and dwarf kidney beans may both be sown in pots and boxes, pretty thickly, raised under glass or otherwise protected, and transplanted out at the end of *May*, or the beginning of *June*.

BEET.—In these days of total abstinence from alcoholic drinks, for those who require something more than tea as a refresher for exhausted nerves, I know of few things better than pickled beetroot, which all who have gardens can grow and pickle for themselves in jars. Beetroot is certainly a most wholesome and delicious pickle, which may be eaten and with a relish, with hot meat, cold meat, bread and butter, cheese, etc., and is far more nutritious than pickled cabbage, onions, or anything else in the vegetable way.

There are a great many varieties of this vegetable, but the best sorts for general use are **Dell's Fine Dark Crimson, Nutting's Selected Dwarf Red,** and **Waite's Blood-red.** The first two require very good ground, and the last moderately good land. Dig the ground over, breaking it up well, and manure in *March*, and in the end of *April* chop over the surface, five or six inches deep, making the surface soil as fine as possible. Draw drills twenty or twenty-four inches apart and one-and-a-half inches deep, with a half moon hoe, and then sow the seed about as thick as tall marrow peas or dwarf beans, if the seed can be depended upon, then draw the fine soil taken out of the drills over the seed, and make it a little firm, pressing it to the seed. As soon as the plants are well up above ground, and show from four to six leaves, thin them out to six or nine inches apart, according to the sort, for some grow larger than others,—and keep them clean. The roots are fully matured by *October*, and may then be pulled, the tops twisted off, not cut, and the roots boiled, and then pickled in vinegar, or packed in damp pit sand for winter

use. It is necessary to remind those who grow beetroot for the table, that the roots must be merely *washed* for cooking, and *not cut* in any part—not even should the branched roots or the crown be cut off: indeed, the root should be in no way wounded through the skin, for when this is done, accidentally or intentionally, they lose a great deal of colour and flavour.

CARROT.—Do not sow carrots for a main crop before the middle of *April*. Then the land gets warmed by the sun, which is a great thing for carrot seed, for when carrot seed is sown before the ground gets well warmed the seed is not able to resist the coldness of the soil about it like other seeds. If you examine carrot seed you will discover that it contains a water-absorbing exterior coating, which must inevitably rot if it cannot, for want of a certain vitalizing state of temperature in the ground, vegetate quickly in course of a few days. Hence arise so many failures from seed that is sown too early, and then the seed is blamed and condemned as old and worthless. The ground for carrots should be of a light and sandy nature, and deep. It should be well dug over twice some weeks or even months previous to sowing the seed, so as to get a thoroughly pulverized surface. Carrots do well on light land after potatoes. The addition of one pound of salt and two or three pounds of soot per rod well mixed and dug into the soil the last time of digging it over, is one of the best manures it is possible to use for carrots. The surface of the soil having been made fine, and raked off with a coarse rake, and the sides of the beds lined and cut down, draw drills across the bed, eight inches apart, and one-and-a-half inches deep, and sow the seed at the rate of one ounce of good seed to 100 feet run of drill. It is necessary to rub the seed well between the hands to separate it before sowing. When the seed is sown, take a spade, and laying it flat on the ground, rub the soil with the back into the drills, brushing it right and left: this is I find a much quicker and better way of covering all small drilled seeds up than by a rake, the fine soil is better worked in and fitted nicely to the seed. When the carrots are well up, they must be thinned, and the beds hoed and kept clean.

There can be no doubt whatever that **James' Scarlet Intermediate** is the best of all carrots for culinary purposes. It is early, will grow quite large enough, is clean and long, tender, and of exquisite flavour.

CELERY.—Celery is not much grown by cottagers, but it is a nice vegetable for flavouring soup and broth, and when nicely blanched is exceedingly nice as a salad with cold meat or bread and cheese. To get a fair ordinary crop of celery make up a thin bed of manure—horse-droppings from the road will do well—in some warm corner, six inches high, and make it firm by treading it, then put half-an-inch of fine soil over it of a light nature, and make the surface even and fine. Sow the seed thinly over the surface in *March*, and then sow or sift over the bed, through a very fine seed sieve, some half dry fine leaf-mould enough to barely hide the seed, and then place a handlight, or even a light formed of oiled paper or oiled calico over it, and sprinkle the seed frequently. When large enough plant out in trenches from the seed bed, or what is better prick the young plants out, four inches apart, upon a two-inch layer of manure and soil, and when five or six inches high plant them out in trenches, made for the purpose, one spade wide and a full spade deep, and then fill the trench up with manure, consisting of horse-droppings or any good compost. Then put an inch or two of soil upon the manure, and make all firm, and plant the plants with a plant dibber six, seven, or eight inches apart along the middle of the trench, and water freely. Before planting see that there are no buds or shoots left at the base of the leaves of the plants; if there are any remove them, for these if left will detract much from the main stems. As the plants advance in size from one foot to two feet in height, commence to earth them up four or six inches at a time. This is done best by first chamfering down some soil from the sides of the trench; then get into the trench, the celery being between the feet, and holding the plants one at a time quite tight with one hand, with the other close the soil first to the left and then to the right firmly about each plant on both sides, and so proceed from time to time until the ridge gets

too high for the process first described, when banking with the spade will be necessary. Always remember to close the soil about each plant with the hand first, so as to keep it from getting into the heart of the plants. Dry days must be chosen for the earthing. This is the old fashioned way of earthing celery, and is quite as good as any of the modern methods, and gives much less trouble. I have grown as good and as large celery this way as any that can be shown nowadays. The red solid celery, such as **Cole's Solid Red,** or **Ivery's Nonsuch,** is much better than the white in flavour.

CUCUMBERS.—Most people like a cucumber in hot weather, and a great many prefer growing them to buying them when they can do so. This is easily done by all who can command a warm sunny corner. Cucumbers may be grown with or without glass. Those who cannot command glass may make a small frame, or take a stout box, two feet square more or less, knock the bottom off and the lid also, and nail some square corner quartering or arris rail on each corner to strengthen the sides of the box. It will be better if the box is cut at the sides and front, so as to present a slope from back to front after the manner of ordinary glass frames. Then strain as tightly as possible some unbleached calico over the frame, and nail it on with short tin tacks, and take some linseed oil and sugar of lead well mixed and brush over the calico, so as to render it semi-transparent. Let it dry, and then use the frame as a substitute for glass, under which cucumber seed may be sown and plants raised. The seed may be sown ; or ridge cucumber plants already raised may be planted under the box frame upon a heap of manure, beds of leaves, old tan, etc. ; or holes two or three feet square may be dug, and grass, weed, or any of the above materials put in, trodden in firmly, and six or nine inches of good maiden earth put over it. The frame should be kept over the plants from *May* till the end of *June*, when they may be fully exposed. This is what may be called the most ordinary way of growing cucumbers, and meets the means of the poorest gardener.

Those who can afford to get glass should buy one or two light frames and sashes, or make them, and glaze them with small

squares, which can be bought at the rate of *10s. 6d. per 100 square feet.* That will be about 2s. 6d. or a trifle more for the glass for a sash-light six feet by four feet, and a little putty. This is a good-sized sash for cucumber growing for a small family. Boards and sash timber may be had ready planed for making sashes, and frames ready for glazing may be bought very cheap at the timber yards, and there are but few men now who cannot make either, and paint ready to hand can be had cheap also. Those who can afford to lay out more than is necessary to purchase or make a frame may build pits and low houses for growing them. A low cucumber house costing from £10 to £25 affords the best means of growing them, and is in itself a good investment of money, for it may be profitably utilized for plants too.

Cuthill's Black Spine is one of the most extraordinary bearers yet brought out, and is good for early use, and **Lord Kenyon's Favourite** is a good early variety. **Telegraph** also is one of the best long cucumbers that can be grown in house or frame. The **Bedfordshire** and **Stockwood** varieties are the best ridge cucumbers, and the *short prickly* may be said to be the best for pickling. The chief cause of bitterness in cucumbers arises from a variable temperature, and more often from a lack of water. Cucumbers when in bearing require abundance of water daily. It is not possible to give them too much.

ENDIVE.—Sow the French **green-curled** variety about the middle of *June* for the autumn, winter, and early spring endives. Sow the seed thinly upon good ground in very shallow drills, one foot apart, the soil being very fine. When the plants are large enough to handle well, plant them out into other good beds in rows, one foot apart by nine inches apart in the rows, thinning out the seed-bed and leaving a crop therein. These will come to use first. Then from the batch first transplanted and a second batch transplanted from the same seed-bed, enough endive may be obtained from this single sowing to last from early autumn till the following *April* and *May*. Make another sowing in *April* for small endive, and another in *May* of the **Round-leaf Batavian,** but as these will soon start to

seed much dependence cannot be placed in these sowings for large endives. The ground must be rich and the plants should be sown in a west or north aspect, and remain in the seed-bed without transplanting. The best way to blanch endives is to tie them up while dry like cos lettuce. To secure endives through the winter some adequate protection should be afforded them during frost.

LEEK. — The leek is essentially the cottager's vegetable, which is highly prized on account of the uses to which it can be put, and there can be no doubt that the leek is much superior in quality to the onion, and a vegetable that suits the constitution of man much better than the onion, for I find by experience that the leek, when cooked, can be eaten by, and is more agreeable to persons of weak stomach than the onion, and contains more nutriment. To get fine leeks with a greater length of blanched stem, first sow the seed in a seed-bed in *March*, and when seven or eight inches high lift the largest of them first with all the root you can. Trim off the long roots, and then having a plot of land dug deep and well, make holes by line at fifteen inches apart from line to line and six inches in the line, with a long hand-dibble, thrusting the dibble into the ground to the depth of eight or nine inches, and then drop a leek plant into the hole as you proceed, but do not close the earth to the plant at all, nor do any thing more to them. They will soon take hold and will advance fast, and make the largest and best leeks.

LETTUCE.— There can be no doubt that a well-grown lettuce, nicely blanched, forms by itself one of the best, cheapest, most wholesome, and refreshing salads when cut up and dressed with vinegar and sugar, that can be had in warm weather, and forms an excellent substitute for alcoholic beverages, allaying thirst and cooling the system ; and then with other herbs and condiments added, it forms one of the nicest, cooling, and palatable salads with cold meat possible. Some prefer the cabbage lettuce to the cos, but I feel almost sure that such a choice arises through want of knowledge of what a really good cos lettuce is, for there is as much difference in the crisp-

ness and rich flavour of a good and well-blanched cos lettuce and that of the best developed cabbage lettuce as there is between a common cooking apple and a Ribstone pippin. I know very well that when the cos lettuce is not well grown and well blanched, it is not even comparable to the ordinary grown cabbage varieties, and is bad in taste and tough, but this condition is no criterion to go by. To grow good, first-class cos lettuce for the first and second spring crops, get some seed of the **Black-seeded Bath** or **William's Victoria**, both good, and sow about the 15th or 20th of *August* on a nice mellow bed, from which a crop of early potatoes has been taken. Do not sow the seed too thick. Half-an-ounce of seed will be enough for half a rod of ground, which is fifteen or sixteen square yards. Make the surface of the ground moderately fine and even. Sow the seed broadcast evenly over the surface on a fine still day, and when the surface is dry or half-dry, and then go over the surface and tread the seed in, observing to keep the feet close together and slightly shuffle them half the length of the foot at a time, going regularly over the whole, omitting no space of the surface sown, and then do no more to it. The small thin seed will fall among the little lumps and the action of the feet pushes the soil over them, covering the seed sufficiently, and fitting the soil nicely to the seed, which will soon germinate.

As soon as the plants are large enough, each containing, say, six or eight good leaves, plant the strongest of them out on a good plot of land, well manured, in a warm aspect. Plant them in rows fifteen inches apart and nine or ten inches apart in the rows, dibbling them in with a short hand dibble. The strongest of them will be ready to plant out in about the middle of *October*. A second batch may be planted out a month later if the weather is mild and likely to continue so, and at the beginning of the following *March* another batch may be planted out in a western aspect, and at the same time a sowing of the **Drumhead** or **Malta** cabbage lettuce should be made. This is a good summer variety and will grow to a large size, crisp, and good, on good land. About the middle of *July* a sowing of the **Hammersmith Hardy Green Cabbage**, or **Stanstead Park Winter**, may be

made for mid-winter lettuce, and one sowing of **Grand Admiral** or **Royal** may be made in *June* for autumn lettuce. From these sowings and sorts lettuce may be had all the year round. Good land is required for lettuce and abundance of water during the spring and summer.

The **Cos** varieties require tying up with bast matting except a few sorts, such as the **Paris Cos**, but they should not be tied till two-thirds grown, and then not tied too tight.

MELON.—This is a fruit rather than a vegetable, but it will be convenient to consider its culture here. Very few amateur gardeners venture on growing the melon, but there are many who would like to do so if it were not so difficult, as they say. Now I want to remove this idea, and in order to do this I may first of all tell the reader that there are many things in gardening far more difficult than growing melons, which can be done easily enough provided that an ordinary one- or two-light common frame, or a pit or common greenhouse, is available for the purpose. The first of these may be had complete at a low price, or may be made as recommended for the cucumber with this exception, that it must not be covered with canvas but with glass. Then having the frame and some fermenting materials at command, such as stable manure, leaves, tan, cocoa-nut refuse fibre, etc., make a solid and firm bed two-and-a-half feet high and six inches larger than the frame on all sides, in a spot fully exposed to the sun. Cover over the bed inside the frame with maiden soil to the depth of six or seven inches for the plants to grow in. Melons can be easily grown by all, for the melon is more robust in constitution than the cucumber, and not more difficult to grow. Many people fail in growing melons through over-indulgence. I would not advise anyone with small means to attempt to grow the melon too early. To begin in *May* is early enough for the appliances already named. Then, with ordinary means and attention, ripe and fine melons are sure to reward the grower in *July* and *August*, if he select such sorts as **Munroe's Little Heath**, a fine, free-bearing variety with a hardy constitution. The plants may be raised on the bed when the heat is up, but I would rather advise the amateur to pur-

chase a good plant as soon as the bed is ready, that is, as soon as the heat is well up, which can be known by plunging the fingers into the hillock, which should be formed in the centre of the light, rising from four to six inches above the level surface of the bed in which the plants or plant—one strong one being enough for one light box—are to be planted. As soon as the bottom heat is well up so as to be pretty warm to the finger, put in the melon plants, and shade a little for a few days, and when the plants are beginning to run over the bed a few inches admit a good share of air from nine a.m. until four p.m., when, if the weather be sunny water all over the bed and plants except immediately upon the main stem in the hillock, which is called the collar of the plant. This should not be wetted much. Having watered or syringed the plants well every day at four o'clock, more or less, according to the brightness or cloudinesss of the weather, close the sashes at once. The runners or vines should be stopped as soon as they reach the sides of the frame, and then the fruiting laterals will at once be made. These should be kept thin and well regulated and the fruit *set* as soon as the flowers are expanded. As many as five melons may be allowed upon each plant which, if the plant is strong and *manure-water* is given to the plants as soon as *the fruit* is *half-grown*, will attain a good size. Abundance of water should be given them daily as directed till the fruit is changing colour and begins to give out fragrance, when no more water must be given. Abundance of air should be admitted into the frame during hot, sunny weather, but no shading must be done, let the weather be as hot as it may. Now, reader, follow these few simple directions, and you will not fail to have melons.

ONION.—The improvements in growing the onion that have been made of late years have resulted in extra fine bulbs and heavier crops. It is found now that it is not so difficult to get onions as large and as good as the imported Spanish bulbs, and as to the bulk of weight to be had from a given space, it has been proved that taking, say, the **Bedfordshire Champion**, **Danvers' Yellow**, or **James's Long Keeping**, all good sorts, and sowing the seed on well manured land in *March* in

drills drawn with a heavy broad hoe two inches deep or more as for peas, and the seed sown moderately thick, and allowing all or nearly all to remain in the rows instead of sowing them thin and shallow, that as fine bulbs, and three times as many can be had from the same area as under the old method. It appears that by sowing the seed deeper in wide drills and not thining the crop out, that the bulbs assist each other in development, and so resist surrounding disagreeable influences. This I am much disposed to believe. The results are satisfactory, at any rate, and the method of growing that produces these results should be adopted. The results, in deed, are similar to those obtained by planting potatoes as I have described—see "Potato," page 121—a method which I have proved to my satisfaction. For the future I will never plant potatoes apart at much more than half the distance at which they are usually set, and now I can see that twice or thrice the weight of onions can be had from the same area of land as under the old *régime*. In order to get bulbs of the largest possible size, the method should be adopted that is followed in Western America, Texas, and El Paso, where they grow onions from three to four pounds in weight. The mode of procedure is this :—About *August* the seed is sown as thick as we sow the Silver-skinned onion for pickling, and as it is very hot in the regions named, the young onions grow rapidly, and form small sound bulbs. These are gathered as soon as they are ripe and saved till spring, when about *February*, I believe, these young bulbs are planted out and soon develop into immense onions, the land being rich and the climate being hot. Now, if we adopt a similar plan, and sow the seed of **Giant Rocca** of Naples ; **Santa Anna** of Madeira ; or **Mammoth** in frames in *July*, and get them to bulb, and then plant them out in *April*, we shall obtain extra large onions. The seed should be sown on rather poor ground and very thick. Again, sow these sorts in *August* in moderately good and dry ground, let them stand all the winter and transplant them on rich land fully exposed to the sun in *April*, in lines three inches apart and six inches from plant to plant. These will bring large onions also.

PEAS.—For cottagers and all small gardens the dwarf, **Little Gem,** is no doubt the best and most profitable of all peas, and I do not think this pea will ever be excelled for excellence of flavour and productiveness. It is of the exact character required for small gardens, as short fagot sticks cut in twain are quite long enough, or sticks may be dispensed with altogether. This pea is all that is required for early, middle, and late crops, and may be sown every month or six weeks from *January* until *August.* There is a pea called **Multum in Parvo,** so much like it that it requires a keen eye and good judgment to distinguish the difference in character between the two. I have tried them both, and certainly I recommend **Little Gem** for all small gardens. This pea may be sown in rows two feet apart, and not too thick in the rows, the seed being new and the land light and good. The peas may be sown at an average distance of half an inch in the line for the first sowing, and one inch for the second sowing, which may be made in the end of *February,* and two inches apart after that time, but I must repeat that it is necessary that the seed should be new, and the land light, otherwise it will be best to sow thicker to insure a full crop, but if all things are favourable the distances named for sowing are about the thing. In dry weather, it is a good plan to draw the drills, which should be three inches deep from the surface, and then to well water them with a heavy rose; sow the seed, and then draw the soil over them, but the row should not be watered after sowing. I find this plan much better than that of soaking the seed before sowing. Dress the rows as soon as the peas are an inch above the ground; this is done by drawing a coarse nail-toothed rake across the row, slightly moving the surface soil by short strokes to and fro across the peas. This removes the crusted soil, and any coarse lumps of earth and stones. As soon as the peas are three inches high draw some fine soil to them on each side, and for the earliest crop draw a good light ridge of soil up to the rows on the north side, which will afford shelter for them from the cutting wind from that quarter. As soon as the pods are formed sow some *nitrate of soda* between the rows at the

rate of one pound to the square perch. That would be about half an ounce to nine square feet; this will give them a deep colour and improve the size and flavour. I have omitted the enumeration of other sorts, of which there are many, but choice may be made of all classes and qualities at will from any seedsman's list.

RADISH.—Sow **Wood's Early Frame** in a frame or on a warm sheltered border at the end of *December* for the first crop. There are not many cottagers in rural districts that care for these so early, yet there are many mechanics, clerks, and tradesmen in and near town and cities who, having small places, like to grow them partly for amusement and partly for convenience of having a few ready to hand when they are wanted. Such amateur gardeners having a sunny spot under a wall may succeed well in growing first crops, and more particularly if they can avail themselves of the assistance to be derived from a one- or two-light frame. The ground should be dug over and richly manured a few weeks before sowing, unless the land is, indeed, of a light nature, when it may be manured and dug on a fine day, and the seed sown at once. Sow the seed broadcast thckly: one ounce of seed will not be too much for two square yards, and, for my part I sow even more than this, for radishes should be thick, and should be drawn while small and young. Radishes lose their flavour and become strong and acrid and less crisp after they get above half an inch in diameter in the thickest part. Be it remembered no radish can acquire size, but at the expense of quality. Therefore sow the seed thick, daily water them as they advance towards maturity, and draw them as fast as they arrive at the size named, of course thinning them out.

After the seed of the first crop is sown and buried, which is done by chopping the surface of the bed over evenly with a coarse rake, which will let the seed into the soil without further trouble, cover the bed over with ferns, straw, or old hay, till the seed is up, when the bed must be uncovered every morning in all mild and open weather, and be covered up at four o'clock in the afternoon. If the seed be sown in frames this is not neces-

sary, except in severe frost, when the lights must be covered. Sowings of long radishes may be made every month from *March* till *July*, when turnip radishes may be substituted up to *October*.

SEA KALE.—Most cottagers, especially rural ones, would almost treat the idea of growing sea kale for their own use with contempt, and so, perhaps, would many amateur gardeners. Now, I ask, Why should not the working man have the pleasure of eating sea kale as well as those who are better off?—especially when he can grow it easily, for it is as nice and profitable a vegetable as any that can be grown. Sea kale is as good when it is not blanched as when it is so prepared, and I think even richer, and the profit lies in its productiveness, for you may continue to cut greens like marrow from it for months every year, and for many years, so long as time is allowed during the late summer months for the roots to make strong crowns for a supply for the following year. The plants may be raised from seed sown in drills like white peas, about one foot apart from row to row, or cuttings of the roots will make plants. The plants for permanent bearing should be planted in rows two feet or more apart, upon deep and rich ground of a sandy nature well dug over. Sea sand or salt dug into the ground is a good thing for sea kale, and top dressings put on once a year in the winter, and dug in, will much benefit the plants. For blanching, the crowns should be thinned out to one or two strong ones to each root; this should be done soon after midsummer. The blanching of sea kale is well understood generally. It is merely to cover the crowns up with pots, boxes, etc., and then to cover over the pots or boxes with *leaves*, *manure*, *old tan*, *cocoa-nut refuse fibre*, etc., so as to exclude the light.

SPINACH. — The best and most profitable spinach that any one can grow is the **Winter Prickly**, because that sort is hardy, and comes into use in the spring as well as winter, when green vegetables are scarce. There can be no doubt that spinach is one of the most wholesome vegetables grown, and should be cultivated more largely than it is. The land should

be good, and should be manured and dug over for the winter crop, and got ready for sowing the seed about the *18th* or *20th* of *August*. A warm spot is generally selected for this sowing, because on such a site it is easier to obtain it through the winter. The seed should be sown in drills drawn two inches deep and one foot apart at least. Sow the seed thin and cover in the full depth of the drill. Thin the plants out early to nine or ten inches apart in the row and hoe them. Early in the spring sow some *nitrate of soda* over the ground, at the rate of one pound to a square perch, or sow soot between the rows. Sow the round-seeded spinach from *May* till *August*.

TOMATO.—In hot countries the tomato is one of the most useful fruits it is possible to have, and is eaten without cooking when ripe, as a cooling fruit, and as a prophylactic against fever and ague. Here the fruit is used as a vegetable, and is palatable and wholesome as such. The best varieties are **Hathaway's Excelsior**, a variety which yields round, smooth, large, heavy fruit, and is an abundant bearer, and ripens about the middle of the season. **Little Gem** is an early sort, the fruit being of medium size, but abundant; **Criterion** produces large, smooth, red fruit, is early, and is an abundant bearer. The seed must be sown in heat in pots in *April*, and potted off as soon as large enough, but too much heat should not be given them, nor is it desirable to raise them in too warm a bed. After the plants are potted off and re-established, remove them to a cold frame, house, or pit near the glass, and throw a mat over the frame at night, if frosty. Give abundance of air during the day, and the end of *May* or begining of *June* plant them out in maiden soil only, and without manure; manure and strong soil drives the tomato too much to stem; moderate and rather poor ground is better for them than very rich soil till the plants show fruit. When the fruit gets as large as marbles, give stimulants in a liquid state. Very weak guano water, one ounce to the gallon of water, forms a suitable and sufficient stimulant. Give each plant two or three gallons, pouring the liquid over the ground in a radius of two feet from the stem. This may be repeated again when the fruit is half ripe, or *Goulding's special*

manure may be given to them with advantage, or *nitrate of soda* sown over the ground for three feet from the stems, and up to them at the rate of half an ounce to the square yard, or about the same quantity to each plant, or any of the patent manures that are suitable may be used, care being taken not to use too much at a time for tomatoes. As the plants show fruit nip out the points of the branches having fruit upon them, and as much as possible concentrate all the strength of the plant upon the fruit, cutting out all fruitless growths as much as can be done fairly, and keeping the vines thinly laid out upon the wall or fence. The most sunny place to be found should be assigned to them. To make sure of ripening a crop of tomatoes in our fickle climate, care should be taken to have what we call *starved woody plants* for planting out at the end of *May;* such plants are easily obtained by sowing as early as the beginning of *March* in a very mild heat, and then potting the plants off into four or five inch pots, and growing them slowly on in a cool house or frame. By the end of *May* the plants will be showing fruit, when they should be turned out ball entire at the foot of a south wall or fence. Plants raised from cuttings will fruit more freely than seedlings.

TURNIPS.—Turnips may be sown from the beginning of *April* till the end of *July*, but not much after. Some land will not grow good turnips; land containing much lime will never produce turnips of good quality, especially early ones. The best turnip land is of a light texture, lying upon a loamy subsoil. Manure applied in too fresh a state is not good for turnips, for which the best decomposed kinds and the patent turnip manures are the most suitable. Potato land is the best class of land for turnips for an early crop, or land from which an early crop of potatoes has been taken will grow the best winter turnips. The seed may be sown broadcast and trodden or rolled in, or sown in drills at one foot apart; wood ashes afford a fine manure for sowing over them or drilling in with the seeds. As soon as the turnips have four or six leaves, commence thinning and hoeing them, and repeat this often, for the turnip likes the hoe.

The *Turnip Fly* may be checked by steeping the seed for a month in flour of sulphur, or pounded brimstone, well mixing the seed up with the sulphur powder in a dry state previous to sowing, or by sprinkling over the crop a light dressing of soot, lime dust, wood ashes, or bone manure.

ASPARAGUS. — This and some others are misplaced, according to the alphabetical rule, but it will make but little difference. Many are deterred from growing asparagus, merely on the ground of the difficulty and expense of making the bed, an idea much to be regretted, which has originated with professional men, and which it seems difficult to get rid of. Now, supposing the ground to be of a suitable nature for growing asparagus, such as a deep and rich sandy soil, the work is more than half done, but supposing the land is not at all of this kind, it can be made so by adding six inches of sand, whether sea sand, or fresh river sand, or clean pit sand matters little, for each kind will do equally as well as the others. Put the sand upon the place to be planted, and also add six inches of rotten manure, and dig all in and incorporate well with the soil; and, then, if the land be heavy, put four or five inches of sand on the top. This will work into the surface when the plants are planted. It is best to set the plants — which are better if only one year old, but which should not be more than two years old—in *March*, this being the best time, and to set them in one or two rows or more, according to demand, at eighteen inches apart, the whole length of the ground, and not in beds as is usual. The plants may be dug in, spreading out the roots over a flat trench, and burying the crowns two inches below the surface. They may be set at a distance of one foot apart in the line. After planting spread over the surface a layer of old tan, two or three inches thick. This will keep the roots moist and will nourish the young plants; nothing more will be required till the autumn, when the stems may be cut down. In the following spring sow the surface of the bed over with salt, at the rate of three pounds to the square rod, and put another two inches of old tan over the surface, having forked over the surface two or three inches deep before sowing

the salt. A few heads may be cut this year, but not many. In the following spring subject the bed to the same treatment, and add some soot, or bone manure, or some of *Goulding's Special Manure*, as a top dressing, after having forked over the surface to the depth of a few inches as before, and then put another inch of old tan, or horse droppings, or sheep droppings over the bed. Thus first-class asparagus may be had at home by all who have small plots of ground available for growing it. It will be seen that this method is simple and not expensive. Indeed, the preliminary operations are by no means heavy, and the cost but trifling, should the land be deep and sandy. Deep trenching is not necessary. The asparagus is a surface growing plant, and good nutritious top dressings only are necessary to get it good.

II.—THE CULTIVATION OF THE MUSHROOM.

THE artificial growing of the mushroom is not half so difficult as is generally supposed, and is quite within the reach of most or all amateurs. I wish I could persuade those of my readers who are desirous of having this tasty vegetable at hand most of the season, and of their own growing too, to take notice how and under what conditions the mushroom is produced naturally, and the work is half done. First, the spawn is generated during heat; and secondly, the delicate fibre is actuated and stimulated into productive life as we see it in the shape of fine mushrooms in old pastures, etc., when the night temperature is moist and lower than when the spawn was generated in its first stages, from what?—seeds, so say good authorities; so be it. From this observation let no one suppose it a matter of great expense and that heat is required to grow the mushroom. Still, to have them in midwinter or in early spring, we must imitate nature, to do which, at these times, such a place as a cellar, a dark room, or partially closed contrivances must be resorted to, to exclude the full power of the light, for a subdued light is necessary for the production of the mushrooms, and what is more essential to its

proper growth is not a high temperature, but a moist one, one charged with cool vapours, as cool as those of an autumn night. When I was a young man, I have been out on an *October* morning after mushrooms at 5 or 6 o'clock when the air has been as cold as if it were freezing, and the dew upon the grass like rain. These were the mornings for mushrooms, and some would be found as large as a cheese-plate. It would be well for mushroom growers to try to imitate these conditions. Spawn can be made, but for amateurs it is best to buy a few bricks of it. Then fill boxes, or eight or nine-inch pots with clean horse droppings from a stable where the horses are corn fed, and ram these droppings quite firm into the pots or boxes, beating them with a mallet. *This process of making all mushroom beds*, under all circumstances and in any form, must be strictly adhered to. The pots and boxes so filled may be subjected to a mild heat by placing them in a close frame, or hot-house; a cold frame will do, keeping it closed and open to the sun, and as soon as a tolerable mild heat is felt in the pots, etc. which can be ascertained by plunging a stick about the size of the little finger into each pot or box, and then drawing it out and feeling it with the other hand; then take a little lump of the spawn, about the size of a walnut, and thrust it into the centre of each nine-inch pot, and so in proportion to the extent of surface of each box or bed. Then take from a pasture or old common, some good maiden loam, of a rather *close and adhesive nature;* such as is called by gardeners a binding soil, and when it is half dry, and by no means too wet, after beating it fine, and screening or sifting it, cover the surface of each pot, box, or bed an inch or so with it, making the surface quite smooth and firm. Continue the mild heat for a fortnight or more, when the heat may be allowed to lower, and finally to cease altogether, unless the mushrooms are wanted from such pots, boxes, or beds forthwith. If not, these pots, etc., may be kept cool and dry until required; then they may be watered, and so set going in a *cold frame, pit, house or cellar:* one or two good soakings with soft water will suffice to move the spawn into active life, and a *moist atmosphere* should be maintained by daily syringing the

surroundings, but the beds, pots, etc. should not be wetted too much.

All beds, boxes and pots in which mushrooms are grown under glass, as pits, frames, and low houses, etc., which are good things for the purpose for winter and spring culture of the mushroom, should be shaded from too much sunlight, and securely protected from too much cold by covering them over with mats, placing hay under the mats in frosty weather.

Beds made in pits and cold frames in the month of *October*, with fresh stable manure with the long litter shaken out of it and made solid, one foot thick, or with cocoa-nut refuse fibre, will answer well for producing mushrooms all the winter without much trouble.

Beds made out-doors with stable manure and leaves, in equal parts, well mixed, and made with a lean-to surface, against a wall or building, or span roof fashion upon an open space in *March*, and treated the same as for beds and boxes in frames, as regards earthing and shading, will yield mushrooms until they appear in the open pasture. These beds must be spawned when the heat is about 65 or 70 deg. Fahr., and on the decline rather than on the increase, and the earthing done at once, and the bed or beds covered with old hay and straw mats, to ward off excessive wet. The mushroooms will appear in about six or eight weeks after the spawn is inserted ; should the beds become too dry, water may be given in one or two good soakings only, but never frequently and in slight sprinklings. These beds in the open air may also be made with cocoa-nut refuse fibre.

Mushroom beds may be made upon shelves in cellars or close sheds, etc. The beds may be made when convenient, spawned, and kept dry till wanted, when they may be set going by a good soaking with water.

III.—SWEET HERBS OF ALL KINDS.

CARAWAY, CORIANDER, and **DILL,** are all annual pot herbs, and medicinal herbs of great use, and everyone should sow a little of each of them. Dill seed steeped in warm water

and made into a syrup is an excellent thing for those who are troubled with flatulence. The others are used to flavour cakes, etc. Sow the seed in the open ground in *March*.

HOREHOUND.—A well-known poor man's herb, which is often as good as a doctor in the house. Indeed a single pennyworth of this herb made into a sweet drink and taken at night on going to bed in cases of severe cold in the head, may often be the means of saving a pound or more in doctors' bills. The plants may be raised from seed as well as by division.

LAVENDER.—A well-known, beautiful, low shrub, whose dried flowers yield a most agreeable perfume. Many a cottager might in rural districts grow lavender for sale to pecuniary advantage. The lavender is also a good medicinal herb. The plants may be raised by seed and by slips, cuttings, etc. The seed may be sown on a warm border in *March*.

MARIGOLD.—The scientific name of this plant is **Calendula officinalis.** It is easily known by its handsome orange flowers, which are dried and used as an infusion for *measles*. A strong decoction of the flowers is a most useful remedy for cuts, healing them quickly and surely. It is applied by saturating a linen rag with the decoction, and binding it upon the wound.

MARJORAM, THYME, SAVORY, SAGE, and **MINT,** are all well-known pot herbs, which need no description. The management of some of them, however, is not always well understood.

Thyme and **Sage** should be taken up and replanted, laying the roots deeper into the soil once within two years, and dividing them if necessary.

Summer Savory should be sown every spring on a warm border, and then transplanted into beds; this herb should be cut off close to the ground just when it is about to come into flower, and dried. **Winter Savory** is a perennial, and may be treated like Thyme.

Marjoram should be treated as mint. **Mint** of all kinds should be taken up and replanted in fresh ground of a good

nature once a year, or once within two years, and every late autumn a top dressing of some light manure should be applied to it two inches thick, and allowed to remain on throughout the whole winter.

PARSLEY.—Parsley is in constant request, and is not only a useful potherb, but a valuable medicinal one also. It should be sown in *May*. The land should be good and of a light nature, and on a dry bottom. The plants should be set out at ten or twelve inches apart. The seed should be sown in fine soil about a half inch deep, and then trodden or rolled, or beaten with the back of the spade.

TOBACCO.—Those who like to smoke may grow their own tobacco if they will. Sow the seed on a warm border under a handlight in *February*, or *March*, or in seed pans, and place in a mild heat; prick the plants off when large enough by threes into a 3-inch pot, and plant out the end of *May* on good land in a warm place and encourage the plants to grow as much as possible. When the leaves are two feet long, or more, cut them off and hang them up in a warm room, on a string, to dry. After they are thoroughly dry, they may be steeped in rose water, musk water, or water impregnated with any agreeable flavour, and redried, after which they may be cut up small and put into canisters.

CAMOMILE.—Here is a plant every cottager would do well to cultivate for home use as well as for the sale of the flowers, which are much in demand for medicinal purposes. The plants may be grown upon poor and stony land with a dry bottom. They may be planted in rows, at one foot apart, and nine inches from plant to plant in the rows, and the flowers should be gathered as soon as they are fully open a few at a time as they come on, and put on a tray to dry. When thoroughly dry they should be put into paper bags, and when the season for gathering the flowers is over, and the flowers all dry, take them to any druggist, who, in all probability will readily buy them of you, the price per pound depending upon how they are gathered and dried; therefore watch the time for daily gathering the fully developed flowers. Gather them when they are perfectly dry,

and pull off the heads of the flowers without stalks. The double sort are the best.

RUE.—This is a medicinal herb which many use as a disinfectant, and which is said to ward off contagious diseases like tobacco: hence some are accustomed to take a few leaves of rue, chop them up fine, and then mix them with honey or treacle, and take a teaspoonful previous to visiting the sick. There can be no doubt that rue is a fine tonic which strengthens the chest.

HORSERADISH.—This is a well known root that is very commonly eaten with roast beef, but which as a medicinal herb is not so well known as it should be. A piece of the root as large as a nut put into the mouth and kept there for some hours, will remove hoarseness, and restore loss of voice in severe colds. Horseradish will grow almost anywhere and under any circumstances.

PART IV.—FRUIT CULTURE IN SMALL GARDENS.

I.—FRUIT GROWN ON TREES, TRAINED AND UNTRAINED.

AS I find that great errors are still committed by small growers, especially cottagers, with the commonest classes of fruits, I think a few pages of this work may well be devoted to some practical remarks on fruit culture.

THE APPLE. — Amateur gardeners as a rule have not too much space to devote to gardening purposes, and most or much of this space is required for vegetables. A little fruit, however, is desired as well as vegetables, and so, to make the best and most of the ground at command, means are adopted which are ultimately attended with disadvantage. There can be no objection nor inconvenience, but on the contrary a great advantage, attached to the old fashioned espalier mode of growing the apple in all gardens and especially in cottagers' small gardens. I think it requires no great power of argument to prove this, and if the sorts best adapted to this method of training are selected, there is no plan of growing the apple in small gardens that can equal it, for it is certainly more convenient and neater than any other method

of training and equally as profitable. In selecting the sorts choose free and early bearing kinds, or at least free-bearing sorts, whether early or late, and sorts of moderate growth, though this depends a good deal upon the kind of stock that the tree is grafted upon. All kinds grow more freely upon the Crab stock than upon the Apple stock. Therefore choose sorts worked on apple stocks, or work them upon apple stocks for espaliers. It is not desirable to train the trees above four feet in height for small gardens, as if they are allowed to run to a greater height than this, the trees perhaps will cause too much shade. The trees should be planted about eighteen inches from the sides of the walk or pathway, and at from eight to ten feet apart. Instead of giving a list of sorts here, I would recommend those who intend purchasing, to send to such growers as *Mr. Rivers, Sawbridgeworth; Messrs. Richard Smith, Worcester; Mr. Paul, Cheshunt;* or some other well known nurseryman for a catalogue, when sorts can be selected to suit all places and tastes. Plant in *October* or *November*, and drive stakes down in a line one foot apart. These stakes may be of iron or oak, and should be four feet high when fixed in the ground. As soon as the newly planted trees are well settled, tie out the branches right and left to the stakes with tar cord, in direct horizontal lines, and about eight or ten inches asunder; continue this, and lay in as many as may be required to fill up to the top. As the trees make new shoots, lay in these rods as permanent base rods which will have to be spurred in or nipped in when young growth is made along them. Standard apples should not be admitted into small gardens, and should be planted only in orchards. The due regulation of the branches of young standard apple trees is absolutely necessary, otherwise they will grow too thick and irregular, and become distorted in some cases to a disagreeable degree. All leading branches which are disposed to grow beyond due proportion to the rest, should be shortened until some uniformity of character in the head is secured. In the first instance the head may be set out with six or seven branches as equi-distant as can be. Standards should have a clean, stout, and straight stem, from five to six feet high.

PEAR.—The pear is only adapted for small gardens as cordons, pyramids, or on walls. In either case the pear requires lifting once within two years, and replanting in the same place to check rampant growth, and to induce fruiting; and this more especially in some soils than in others. The practice of constant thumb-and-finger pruning all the summer is the best to induce fruiting.

PLUM.—The plum is well adapted for small gardens as pyramids and wall cordons, and if the soil is heavy and strong, or the subsoil consists of loam or clay, annual lifting in *October* will be necessary, otherwise little or no fruit will be obtained from them. It is better not to plant plums on north walls, but there are some varieties, such as the **Victoria**, which do well and bear abundant crops in this situation. Thumb-and-finger pruning all through the summer is best.

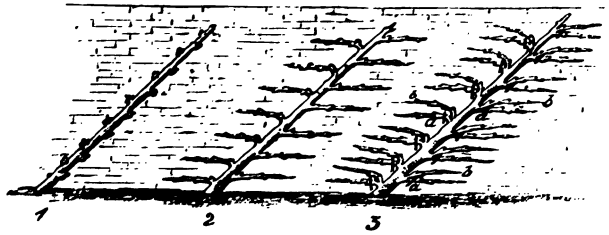
Damson.—This variety of plum is much prized for pies and preserves. These may be grown as easily as other plums in soil of a dry sandy or gravelly nature. The **Damson** is as well suited for small gardens as the greengage plum, and may be cultivated as pyramids or cordons, or in the bush form. The plants should be lifted every other year in *November*. To check strong growth and to throw them into bearing, thumb-and-finger pruning should be applied to them.

CHERRY.—The same may be said of the cherry, but the cherry really requires a light and gravelly soil, when lifting will hardly be necessary.

FILBERT.—The filbert can be grown by many cottagers and farmers to advantage, for the produce of one full-bearing tree may realize from twenty shillings to fifty shillings, with no other outlay beyond the rent of the space of ground that is occupied by the tree. Pruning is necessary, but this should not be done before *March*, by which time it can be seen how much fruit blossom there is, and the work of pruning can then be conducted accordingly. No pruning should be done till after the male flowers have discharged the pollen, otherwise the crop may fail. The fruit-bearing blossoms will be seen upon short spray laterals on the old wood, and upon the lower parts of the

strong last season's wood, and not much above that. This will serve to show how to prune the filbert for fruit. The filbert should be planted in the month of *November*. Plants may be had from suckers and by planting the nut; also by grafting the filbert on the nut. Trees worked in this way are more prolific and require no pruning.

PEACH and **APRICOT**.—As this book is written for persons, some of whom most probably have either or both of these fruits growing, or may wish to have them in some form or other, I feel it necessary to give directions for the best and simplest mode of culture of them here, in order to render my instructions on cottage gardening as complete as possible. The **Peach**, the **Nectarine**, and the **Apricot** may be grown in large pots,



boxes, and substantial tubs under glass for many years without shifting, merely by feeding them with liquid manure, etc., but care is necessary in applying such stimulants so as to meet the actual and urgent demands of the plants. The best time to give stimulants to fruit trees, whether in pots or not, is as soon as the fruit is set, and not before nor after the fruit is half-grown.

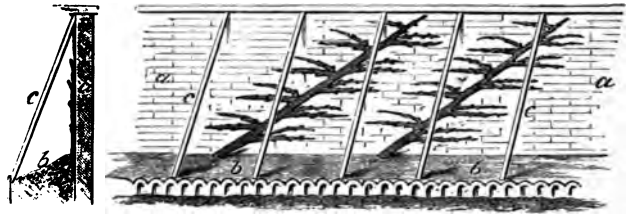
Those who have south walls of any kind may have peaches and apricots. The best time to plant these is the end of *October*. The most suitable class of tree for all classes of wall are those grown in the cordon form. These may be trained vertically or obliquely, according to the height of wall, but I recommend the oblique double or single cordon, trained at an angle of 45°, because then a more equal balance of growth is ensured. If single cordons are used the trees may be planted

eighteen inches apart, or at all events at a distance of not more than two feet from each other. The illustration on page 157 will show exactly what I mean. In this No. 1 to the left exhibits the form of a one-year old maiden tree cut back to one bud; No. 2 in the centre shows the tree in the autumn of the first year; and No. 3 the tree in the autumn of the second year, the marks *a*, *a*, *a*, all through the tree showing where to cut off the wood of last year that has borne fruit, leaving the new fruiting wood *b*, *b*, all through the tree for the following year; and so the operation goes on year after year, laying in one fruiting branch and cutting out the wood that has borne fruit. To ensure good fruiting wood, not too strong nor too weak, it will be necessary to check over-luxuriant growth by annually lifting the young trees in *October* till they are tamed down, and watching in the early season the tendency of the plant, to see if there are indications of any buds or young shoots at the bases getting too far ahead of the others. If this be so, at once nip out the point so as to induce a new shoot to break at the base. This check will turn the current of sap and send it on to a weaker shoot or induce stronger and a more even growth throughout the tree. Some dis-budding may be necessary toward the top till the tree indicates an even breaking from bottom to top, for all peach trees are prone to run to strong wood at the top, but due attention to lifting will, in a great measure, regulate this. There is nothing like lifting them for some years after they are first planted. This is more easily done with cordons than with any other class of wall tree. About the middle or end of *October* open a trench one spade wide and fifteen or eighteen inches from the stem all round, and carefully with a fork turn off the top soil from the ball, and then lift the tree gently and let an assistant hold the tree close to the hole while you prepare the hole again for its reception by working up the soil and making it deep enough, preserving a conical centre upon which the tree is to be placed, keeping as much of the soil about the roots as possible. When all is ready place the tree as carefully as possible upon the little rise in the centre of the hole, and lay out the roots, trimming off any long ones, and then fill

up as before, and moderately tread the soil upon the roots, but not too much; and should the weather be dry give a pot of water to each tree. The soil should be a tender loam with chalk or sand in it, or both, for a calcareous soil suits the peach well. Calcareous soils possess chalk, stone, loam, etc. in about equal portions in some instances, and seem to suit the peach, but a cold clay deficient of chalk or sand is not good for them. Manure should never be introduced into soil for peaches nor, indeed, for any kind of stone fruit while the trees are young, or while they keep healthy and grow moderately. The peach, it must be remembered, will not bear manure while young. Liquid manure may be advantageously given to fruiting trees inclined to weakness, and top dressing with manure may be given in winter and spring when trees are weak. Great care is necessary in digging borders where peaches are planted. Such borders should never be dug deeply, and on no account should any attempt be made to take heavy crops from them. Quick-growing annual crops may be grown upon them without injury, and also strawberries upon the detached plan of culture, but no celery, broccoli, cabbage, greens, etc., must be allowed. Winter pruning should not be done before *February* or *March*. To prevent attacks from aphis or green-fly the walls should be painted or syringed, before the trees are pruned, with a mixture of soft soap and sulphur made moderately thick. It is easy to apply this preparation with a white-wash brush, an assistant holding the tree from the wall while it is being put on. The sulphur will give out strong fumes in spring when the sun is hot, which will be very disagreeable to the insects.

The seasons in England are so very uncertain, and spring frosts so certain about the time when the peach, plum and pear are in blossom, that some mode of screening the flowers of the peach and apricot on walls is almost invariably needed, but the amount and value of the protection required of course depends a good deal upon how the trees are situated in regard to the cold east winds, that is to say, whether there is any wind-break eastward at a short distance from the trees in the shape of forest trees, buildings, etc. Much depends upon

the situation of the garden as to whether wall screens are necessary or not, but in case they are, there can be no doubt that glass sliding sashes afford the best means of protection. These are expensive at first. The next best medium is the *Hexagon Cotton Netting*, and then strong *Tiffany*, each fixed at the top under the coping of the wall by a strong cord, and strained on clean poles or deal quartering two inches square, nicely planed up, and let into the ground about eighteen inches from the wall, and leaning against the wall at top, where they are fixed with one wall-hook to each. The supports may be four or five feet apart. The net or tiffany should have another strong cord run along the bottom, which should be one or two feet from the ground. The screens need not be lower than that.



This cord should be made fast at one end and strained and properly secured at the other end at night. Thus the nets or tiffany will be in such a position that they cannot, by any possibility, be blown against the trees. Perhaps an illustration will be better than letter-press description, so I append one which will give some idea of what I mean. It is very simple and convenient. In this illustration *a*, *a*, is the wall; *b*, *b*, the border; and *c*, *c*, etc., the supports for the netting or tiffany, which may be made to work up or down by cords running through clean holes made close to the coping through the top of each support, and attached to the bottom cord or top cord on which the screen is fixed, so that any one can cover and uncover the trees night and morning in a few minutes. These screens will last a life-time if, when done with for the season, they are dried well and put away where no damp can affect them.

THE GRAPE VINE. — There are many cottagers and farmers, as well as amateur gardeners, who have vines upon their walls, whose fruit in some seasons cannot ripen. Red brick form good warm walls on which grapes will generally ripen, but should the walls be of any light coloured brick or of stone or of plaster, they should be coated with a mixture of Stockholm tar and fresh lime, the lime being slacked and mixed with the tar while hot. When doing this, remember that the more lime you put into the tar, the lighter will be the colour of the coat, so that a nice looking tint of gray may be produced A coating of this mixture, when dry, will have the appearance of cement, and will materially affect the ripening of the grapes, as it becomes much hotter in the sun than even bricks. The choice of the sort of vine that is to be planted is a matter of much importance. The **Dutch Sweetwater**; the **Royal Muscadine,** a beautiful grape on a warm wall, of a delicious, flavour ; the **Early Frontignan,** a very early muscat-flavoured grape ; or **Esperione,** a fine kind of vine, hardy, and bearing an abundance of sweet, purple grapes, will be found to be suitable for any south wall. Now, whether out door grapes do well or the reverse, a great deal depends upon the situation, whether there be any shelter from other buildings or trees, from the cold easterly and westerly winds as well as upon the situation of the root. In the first place, the roots should be well cared for by giving them good and suitable soil and good drainage. In nine cases out of every ten among farmers and cottagers as well as others, I find that the roots of the vine are in no way sufficiently provided for, either as regards soil or aspect. The soil should be of a porous nature, containing chalk and sand, with considerable fatty matter. I must caution the amateur against thinking that by the expression "fatty matter" I mean *grease* of any kind. The term, which is used and well understood by professional gardeners, though it may not be perfectly clear to amateurs, simply means decomposed vegetable matter, such as cow dung, which is the best of all manures, pig manure, the sediment of cesspits, or decomposed sea weed, laid on the surface, and then dug into the soil and well mixed with

it. Blood and bones, after they are well decomposed, constitute a most useful manure for vines, but there are few manures, if any, better than fresh cow dung, both mixed with the soil, and also laid over the surface of the border, covering a considerable area of it, for the roots of vines travel below the surface in an equal degree to the branches above it, and also run near the surface of the ground. Therefore all manures for vines, whether mixed with the soil or applied as surface dressing, should be spread over as great an area from the stem of the vine as possible. The almost universal plan of applying manures to the roots of vines as top dressings about the stems and over only a few square feet of ground around them, is a plan which deprives them of much of the nutriment they require, for the organs through which the vines chiefly imbibe plant food from the soil are at the extremities of the roots, which may be ten, twenty, or even forty feet distant from the main stem, according to circumstances. When the roots of vines are really confined to a limited space and cannot get beyond it, they require six times as great a supply in the form of liquid manure as vines whose roots can travel in search of nourishment over an unlimited area, absorbing it from the soil itself, which, if only ordinarily good, and well exposed to the sun's influence, gives more benefit in the long run to the fruiting vine than large amounts of manure frequently applied when the roots are confined to a limited space. Cow dung, I repeat, when manure is absolutely necessary, is far preferable to horse dung as a dressing for vines. A thick coating of it should be laid on the surface of the ground annually, in *November* or *December*, at the commencement of the winter, or, at the latest, in very early spring.

The aspect for vines in any and every case should be such as to admit of all the heat from the sun that it is possible to get upon the surface, under which the roots are. And it should be remembered that they travel some considerable distance from the stem. I have found a gravelled surface to be of great benefit to the vine roots. The clean gravel wards off superfluous water, and acts as a good medium for conducting heat. I have

proved to satisfaction that the roots of the vine prefer a position near the surface to much depth below, and when the surface can be readily affected by heat, it is more in favour of the well-being of the vine, so that it will be seen from this that it is desirable that the surface of the ground should be as clear as possible from everything likely to shade it. These are the main points for good out-door culture of the grape vine. The next thing is to have no more wood in the vine than has fruit upon it, or is available for fruiting the following year; and to keep the branches as far apart as possible, so as to ripen both the fruit and the young wood for the next year. The leaves should never be more than one course thick over the wall. If the vines are in good health there will be abundance of grapes, cut how you will, but a judicious laying in of sound and well ripened long rods and cutting out the old wood will bring the most and finest fruit. The next plan of pruning consists in spurring into two eyes or even one if it be a full and plump one. There should never be more than two bunches to a spur or bud, and one is enough.

FIG.—All who have a warm, sheltered corner or a southern aspect against a wall may have figs in abundance, for there is no fruit easier to grow, and the fig will bear fruit when but a rooted cutting. The soil should be of a sandy or gravelly kind, in good heart on a dry subsoil. When the fruit shows itself, nip out the points of the wood on which it is; this will promote the growth and ripening of it. This is about all the culture the fig requires, except that in cold counties it may be necessary to place some matting about the tree in severe and protracted frost. The fig may also be freely grown in comparatively small pots under glass, nearly drying off the plants in the pots in winter, and placing them in a cellar or room till the spring, when they may be again placed in the house, and water given them to stimulate them into growth, when fruit will soon appear. As soon as the plants begin to bud, they may be shifted into larger pots if necessary, or the old soil may be partly shaken out of the roots, and the plants re-potted in some fresh soil, which may be sandy maiden loam and manure. Cuttings of figs taken off with a heel in

October, and inserted in five inch pots and plunged in a mild bottom heat, will root and bear figs in the following summer.

II.—BUSH FRUIT AND SMALL FRUIT.

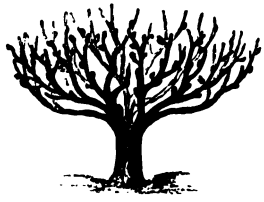
RASPBERRY.—The raspberry may be grown in almost any class of land, but it prefers light and sandy loam of a good nature. For small gardens the raspberry may be planted round the sides, and trained like espaliers, or the fruiting canes may be tied in arches in line like a thin hedge. Four strong fruiting canes may be left to each stool, and the stools should be about three feet apart, or, perhaps, four feet in strong ground. The old canes which have borne fruit must be all cut down close to the ground late in the autumn, and those left for fruiting topped to four feet, and then bent over two canes to the right hand and two to the left hand, each pair being tied to the two rods that are bent towards them from the stools on each side. This method produces a very neat arched appearance, and requires no stakes. The next thing is to lay a good coat of manure on the ground and fork it in, and all is done for the season. Those who prefer a different way of training the canes may adopt it at will. The best time to plant the raspberry is in *October*, towards the end of the month. The best plants for the amateur are medium young canes, with abundance of root and spawn; old plants seldom succeed well; the best way to plant them is to open a trench at one end of the line or row two spades wide, and continue to dig on through, and then to fix the plants at the necessary distance apart, laying the roots out in the trench six inches deep, and then turn some fine soil and a spadeful of old manure upon them, and fix the plants by one or two gentle treads of the foot; but never tread in the raspberry or any kind of fruit tree, whether tree or bush, heavily, for my experience has shown me that trees which have been unmercifully trodden in when planted have not taken root as soon as those which have only been trodden enough to fix them in position, and the soil allowed to gradually settle down. The reason

is obvious enough; the air more readily penetrates and acts upon the soil about the root, and induces activity and much quicker germination, if I may say so, than it is possible to effect when the soil is rendered impervious to its influence. We all know, or ought to know, that it is the air which gives stimulus to the soil. If we sow seed in a pot or pan, and perfectly exclude the air from it, by closely covering it with glass in one case, and leave a second lot uncovered, that is, open to the air, we find the lot that is left open to the air will germinate first. It is different with cuttings which have no underground organs, but in the case of all trees which possess these, the air should be allowed to have free access to the soil, as far as circumstances will admit.

GOOSEBERRY. — The gooseberry is essentially the cottager's fruit, and I want to show how this is so, if it be possible. The peasant and suburban cottager should treat and prune the gooseberry so as to obtain the most and the finest fruit. Cottagers generally plant the gooseberry at the very edge of the walk or pathway, and very often close to a hedge. Economy in planting small gardens with fruit trees is good policy, but I am not sure that the planting of gooseberry trees by the side of paths is the best plan. It would be so, no doubt, if they were trained in the espalier form, and the gooseberry when so trained presents a very neat appearance; otherwise planting them in rows through the ground at four or five apart is the plan that can be adopted best, for then the space is economised, for when they are planted by the side of paths, the paths must be in reality wider than is absolutely necessary, if no bushes are planted among them, and then, for convenience sake, there must be another 18-inch pathway at the back, and the gooseberry bush cannot be planted at a less distance than two feet from the edge, and the same space must be allowed from the stem to the 18-inch pathway at the back, and thus with this addition there is a width of five feet six inches taken up by one row of bushes so planted, whereas four feet will be enough for each row when planted in rows across the ground. Besides, the trees have more chance of a better root space where manure

can be applied, and the fruit itself will be better and twice the size it will be when planted beside walks where manure cannot be readily placed on the ground, nor the ground forked over, both of which are necessary once a year.

Careful and judicious pruning of the gooseberry is as necessary for the cottager as for the gentleman who has a head gardener, and I think even more so, because the cottager often feels the necessity of getting fine fruit of which to make a few shillings to help him on. Now, reader, endeavour to induce your gooseberry bushes to make strong shoots annually, by heavy dressings in *November* of any strong manure you can get, and then roughly fork it in a few inches deep, and when *February* comes, or, say *March*, if it be a late spring, set to and prune them well, never allowing suckers to spring from the root around the stems. These should not be cut off, but rooted out with a long-handled ground-root chisel, taking care not to bruise or injure the stem of the trees. Then try and imitate the accompanying illustration as closely as possible.



This illustration, although a rough one, may give some fair idea of what a well-pruned gooseberry bush should be. The new wood should be left nearly its whole length, and the more useless old wood cut out, so as to keep the bush well open. The best and most fruit is obtained from the new wood. The pruning should not be done too early, as the bullfinches will sometimes pick out the fruit buds in *January* and *February*.

CURRANTS.—I have said a great deal from time to time in my different works about the gooseberry, the currant, the strawberry, etc., yet I feel compelled to repeat the same thing here, for too much emphasis, it seems to me, cannot be laid upon the

culture of these small fruits, when treating of them for small gardens. Currants, both red and black, are very valuable fruits for all classes, and especially cottagers both for their own use and for sale, for with all the present high and extensive culture at home, and the supplies from abroad, the price of the currant is still considerably too high for the majority of buyers. This fruit can be grown more or less by nearly all classes who can command a few perches of land, let it be what it may.

The **Red** currant is more convenient for small gardens than the gooseberry or the black currant. The **Red** and **White** currant can be trained upon walls, fences, or as espaliers to advantage, and the training and pruning may be assimilated with that of the vine, when continually spurred in, with this difference—the currant may be spurred in close every season, as long as the tree or limb lives. The **Red** currant bears its fruit upon the old wood, the **Black** currant upon the young wood. These characters at once suggest the manner of pruning. The red currant forms neat and most prolific espaliers beside the walks, and may be grown freely, laying in the leaders neatly, and then perpetually spurring in for fruit. Bush trees should be set out like an inverted umbrella frame, and when of the desired size may be kept to it by cutting in close.

STRAWBERRY.—I need not say that the strawberry is one of the most useful and most easily cultivated of all fruits, and is as well adapted for the purposes of gardeners on a small scale, as for those who grow them in considerable quantities for sale or for consumption at home. The strawberry may be grown in rows, wherever there is a square perch of ground at all open to the sun ; or the plants may be disposed as edgings, or grown on clean banks, or in pots, and even in boxes and tubs. The cottager in rural districts, and the amateur gardener in the outskirts of our towns may work every available foot of ground of his limited space to his profit, by cultivating the strawberry. When utilised as edgings to walks, compact growing sorts should be chosen. Another good mode is to plant them in single rows, between gooseberries and currants, or to place them at the foot of a wall or fence facing south, east, and west,

in rows or in beds, according to the space at command. In all cases, however, the strawberry should be cultivated on the detached plan, that is to say, no runners should be allowed to remain upon the plants to root into the ground; but all runners should be cut off from the mother plant as soon as they are a few inches long. I want to press this upon cottagers, and all who have but little ground to spare for this fruit, because three times as much fruit will be had from the same space of land as will be obtained on the plan of allowing the whole surface to be overrun with plants, and mowing the leaves off in autumn. The reason is obvious enough. By the first method there is no detraction, but all the strength of the plant is concentrated upon one centre, which results in the production of finer fruit at that single point, and considerably more of it; and then the hearts of the plants are larger and more perfect for the succeeding year. There is a little more trouble attached to the plan in going over the plants every few weeks to nip off the runners, but then an extra crop of fruit will repay that twice over, for a girl or boy can go over a large plot of ground in a very short time with a pair of scissors or a knife, and cut off the young runners; this may have to be done three or four times in the summer. For an edging choose **Oscar**, a fine early strawberry and continuous bearer, and set the plants fifteen inches apart, and nine inches from the edge of the walk; and for beds, plant any kind whatever, a distance of sixteen inches apart every way; keep them clean, and once a year, in *November*, lay an inch or two of fresh soil and manure over the surface of the ground, and quite close up to the hearts of the plants, but with little over them. Lay it upon them as mulching, evenly and neatly, but do not disturb the surface of the ground by digging it at all; and on no account touch the foliage, but leave it all upon the plants until *March*, when it may be trimmed off, care being taken not to cut or tread upon the crown buds of the plants.

The best time to plant strawberries is *August*, and then either to plant potted runners which will bear a full crop of fruit the following year, or to plant strong runners taken from the

ground. Dig the ground well over and manure it for the reception of the plants, and after planting press the ground firmly round each individual plant. There are abundance of other good sorts besides **Oscar**, but I name this sort as an early, large, and fine kind, especially adapted for small gardens.

III.—INSECT PESTS: HOW TO GET RID OF THEM—HYBRIDISATION, ETC.

INSECTS.—Insects may often be prevented from attacking plants and fruits by taking the precaution of applying within the precincts of the subjects suitable, insecticides or much-diluted disinfectants. For example, the application of soot in large quantities to gooseberries before the trees break into leaf will prevent attacks by caterpillars. The fumes of sulphur, in very small, constant, imperceptible doses, where it can be so applied, will prevent the appearance of redspider, thrips, and all insects, as well as mildew.

WORMS IN POTS.—Very often pot plants and fruit trees look sickly, and many call in the gardener to inquire why a plant looks so yellow and out of health. The cause often arises from a worm at the root, which has found its way there through the bottom of the pot while the plant was set upon the ground, or has been introduced when small in the compost. Injury from these causes should be avoided, if possible, and when it can be traced to this at once remove the plant from the pot, knock away the soil from the ball, and extract the worm.

ANTS.—If ants get into a pot, put a lump of lime into a water-pot of water, and the next day water the plant with the clear liquid. This will drive them out.

WOODLICE.—This creeping and assiduous insect is often a source of much annoyance in beds of flowers in some parts, and it is very difficult to check their ravages. A remedy may be found by watering the bed with a mixture of one part French vinegar and nine parts water.

CANKER, GANGRENE, Etc. — When apple trees are attacked with canker or gangrene, to which some sorts are more liable than others, as, for instance, the **Hawthornden,** the cause is to be traced to the condition of the root, the subsoil being too wet and cold for the well-being of the tree. The same may be said of gumming in plums and cherries.

AMERICAN BLIGHT.—Trees are sometimes attacked by white blight, **Aphis lanigera,** generally called **American Blight,** which can scarcely be recognised as an insect, being without distinguishable parts, beyond a body that resembles a mass of fibrous cotton. Nevertheless it is about as bad and slowly destructive a pest as any to be found, and I am inclined to think it arises from infusoria, which find their way upwards from the root through the channels of the bark and wood while so small as to commingle with the sap.

Infusoria, I should explain, are microscopic larvæ capable of mixing with water unseen by the naked eye, being, in fact, of the same degree of texture as fluids, and such as can be assimilated into the same body with the juices the plant absorbs from the soil ; I believe this, because I notice some particular trees are liable to this disease every season, do what you will to the stems and branches, while other trees close by are free from the disease which they would certainly take, if it were only due to atmospheric infections. I may be wrong, but it is worth consideration. It will be found upon examination that trees infected with American blight are diseased at the root, and especially at the extremities of the root. The chief remedy for American Blight is a strong decoction of soot and sulphur made with boiling water. This, after standing for a week, should be poured over the ground about the roots and the stem washed over with it with a brush.

MILDEW may be cured by the same remedy, allowing the liquor to settle, and then applying the clear supernatant liquor to the foliage by means of a syringe. The liquor will cleanse the leaves, and give a good colour to them.

HOW TO RAISE NEW KINDS OF FLOWERS AND FRUITS.—To be successful in obtaining new kinds of flowers

and fruits, some little precaution is necessary in due fertilization of the flowers of most kinds. The state of the flower should be minutely noticed, and when the stigma, that is to say, the female organ in the flower to be fertilized, is fully developed, and the pollen on the anthers of the flower you wish to introduce into the other is powdery, at once nip off the anthers, or the flower itself, and dust the female organ with the powder, all being quite dry. If you wish the seed to partake more of the character of the kind containing the pollen, nip out with a small pair of scissors the anthers of the seed bearing flower before they burst. It must be borne in mind that family affinity must exist between the two kinds, or nothing can result from the experiment. Hence the subjects for treatment must be two roses, two geraniums, two fuchsias, two lilies, etc., let the pairs be as diverse as they may in habit and bloom. Carefully save the seed, sow it in the spring, and patiently wait for the flower from the seedling.

SEED SAVING.—Cottagers and those in the country will do well by saving the seed of any prime and remarkable species of flowers and vegetables of a good improved kind, when satisfied of its superiority over existing varieties. The stock can be offered to any well known seedsman or florist, who will give a good price for it, if it be really worth having. Amateur gardeners and cottagers will do well to save their own seed of such vegetables as the onion, cabbage, carrot, lettuce, pea, bean, etc. In doing so, select the most perfect plants, and save none but the prime heads, cutting off the lateral seed stems.

HOW TO DETECT DISEASED POTATOES. — Many know how to distinguish diseased potatoes, but a good many do not know how to detect bad potatoes. To ascertain whether potatoes are diseased or not, nip a piece with the thumb nail off the thickest end, which is generally called the crown end. If the potato is good, the inside will be clear and free from dark spots; if diseased or going bad, small black specks will be seen. As a rule, the smaller the eyes in a sort the better the quality of the potato.

HOW TO KEEP FRUIT.—Apples and pears should never

be laid out on a dry floor where much air can come at them, but dry hay or straw should be laid over them to prevent the dry air of such a room acting upon the skins, which causes them to shrivel A cool room, and one a little inclined to damp is much better than a very dry airy room to store fruit in.

Pears may be gathered as soon as the pips are a little changed from white, but apples should not be gathered before the seeds or pips are brown. Great care is necessary in gathering fruits, especially pears and apples, not to break off the spurs of the trees while picking the fruit, and not to bruise the fruit by throwing it into the basket. A basket in which fruit picked from the tree is collected, should always have a handle across it, and an iron hook should be used to suspend the basket close to the picker, so that it can be easily shifted as wanted. For high standard trees a long light ladder should be used, carefully resting it against the branches sideways, so as not to break the twigs and spurs off.

With these remarks I think I may fairly bring my instructions on gardening to a close, for I have touched on every branch of the subject on which the amateur and cottage gardener absolutely require information. This I have endeavoured to impart in terms that appear to me have the merit of being clear and to the point, and I feel certain that no one who follows and carries out the directions given in every point of detail, will fail—the weather and the seasons permitting—to attain success.

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